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NAS WHITING FIELD
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TECHNICAL MEMORANDUM NUMBER 2 REMEDIAL INVESTIGATION AND FEASIBILITY
STUDY FOR GEOLOGIC ASSESSMENT NAS WHITING FIELD FL
11/1/1994
ABB ENVIRONMENTAL

REMEDIAL INVESTIGATION AND FEASIBILITY STUDY

**TECHNICAL MEMORANDUM NO. 2
GEOLOGIC ASSESSMENT**

**NAVAL AIR STATION WHITING FIELD
MILTON, FLORIDA**

**Unit Identification Code (UIC): N60508
Contract No. N62467-89-D-0317**

Prepared by:

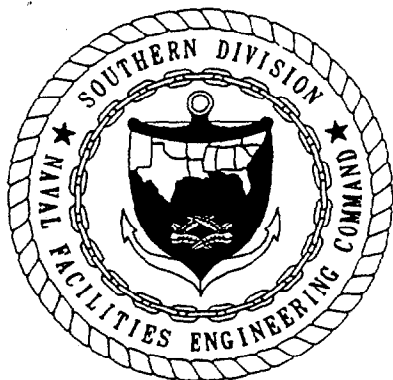
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FOREWORD

The Department of the Navy developed the Installation Restoration (IR) program to locate, identify, and remediate environmental contamination from the past disposal of hazardous materials at Navy and Marine Corps installations. The Navy IR program follows the Department of Defense Environmental Restoration Program mandated by the Superfund Amendments and Reauthorization Act of 1986 to address waste sites that may pose a threat to human health or the environment.

The IR program consists of Preliminary Assessment and Site Inspection, Remedial Investigation and Feasibility Study (RI/FS), and Remedial Design and Remedial Action at sites where chemicals were allegedly disposed. The Preliminary Assessment and Site Inspection identify the presence of pollutants. The RI/FS analyzes the nature and extent of contamination and determines the optimum remedial solution. The Remedial Design and Remedial Action complete the implementation of the solution.

Previous investigations have determined that Naval Air Station (NAS) Whiting Field has 23 waste sites that may pose a threat to human health or the environment. Therefore, an RI/FS will be performed to address the extent, magnitude, and impact of possible contamination at these waste sites.

This Technical Memorandum discusses field methods, transmits data, and summarizes results for the geologic assessment phase of the RI.

Questions regarding this report should be addressed to the Commanding Officer, NAS Whiting Field, or to Southern Division, Naval Facilities Engineering Command, Code 1859, at AUTOVON 563-0341 or (803) 743-0341.

EXECUTIVE SUMMARY

A Remedial Investigation and Feasibility Study (RI/FS) is being conducted at the Naval Air Station (NAS) Whiting Field facility in Milton, Florida. The RI/FS is being conducted for the Department of Navy, Southern Division, Naval Facilities Engineering Command (SOUTHNAVFACENGCOM) as part of their Installation Restoration (IR) program. The IR program was designed to identify and abate or control contaminant migration resulting from past operations at naval installations.

The RI was conducted using a phased approach with Phase I completed in May 1992 and the second phase, designated Phase IIA, completed in February 1994. Technical Memorandum No. 2, Geologic Assessment, is the second in a series of seven technical memoranda that summarizes the results and transmits the data gathered during the Phase IIA RI. These memoranda will form the supporting basis for the RI report and any additional work to be completed at the facility.

The purpose of the RI geologic assessment was to characterize site-specific and facility-wide geology at NAS Whiting Field. Data obtained from this assessment may be used in support of the FS to be performed later in the program.

The field work for the geologic assessment was conducted between October 1992 and August 1993 and included the completion of 57 soil borings, installation of 76 monitoring wells, and completion of 7 pressure cone penetrometer soundings.

The findings of the geologic assessment at NAS Whiting Field indicated the following.

- The facility geology is consistent with regional geologic descriptions. The site-specific lithologic logs indicated interbedded sand, silt, and silty sand units with occasional discontinuous clay layers.
- An extensive, yet locally discontinuous, clay layer was confirmed in the Industrial and Southeast Disposal Areas.
- A clay layer of very limited areal extent, was detected at the Northwest Disposal and Crash Crew Training Areas.
- The presence of a continuous clay layer between the Industrial Area and the Southwest Disposal Area was not confirmed.
- A facility-wide continuous clay layer, above the depth of 50 feet above National Geodetic Vertical Datum (NGVD), does not underlay NAS Whiting Field.

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GLOSSARY

ABB-ES	ABB Environmental Services, Inc.
ASTM	American Society for Testing and Materials
AVGAS	aviation gasoline
BAT	Bengt-Arne-Torstensson
BTEX	benzene, toluene, ethylbenzene, and xylene
bls	below land surface
CAR	Contamination Assessment Report
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
FDEP	Florida Department of Environmental Protection
FDER	Florida Department of Environmental Regulation
HRS	Hazard Ranking System
IAS	Initial Assessment Study
IR	Installation Restoration
NAS	Naval Air Station
NCP	National Oil and Hazardous Substances Pollution Contingency Plan
NFAP	No Further Action Proposal
NGVD	National Geodetic Vertical Datum
NPL	National Priority List
OLF	Outlying Landing Field
PA	Preliminary Assessment
PCB	polychlorinated biphenyl
PCPT	piezocone penetrometer
RI/FS	Remedial Investigation/Feasibility Study
RPM	Remedial Project Manager
SARA	Superfund Amendments and Reauthorization Act
SI	Site Investigation
SOUTHNAV- FACENGCOM	Southern Division, Naval Facilities Engineering Command
SPT	standard penetration test
TAL	target analyte list
TCE	trichloroethene
TCL	target compound list
TRAWING FIVE	Training Air Wing Five
USCS	Unified Soil Classification System
USEPA	U.S. Environmental Protection Agency
UST	underground storage tank

1.0 INTRODUCTION

ABB Environmental Services, Inc. (ABB-ES), under contract to the Department of Navy, Southern Division, Naval Facilities Engineering Command (SOUTHNAVFACENGCOM) is submitting Technical Memorandum No. 2 for the Phase IIA Remedial Investigation and Feasibility Study (RI/FS) for Naval Air Station (NAS) Whiting Field located in Milton, Florida. The RI/FS is being conducted under contract No. N62467-89-D-0317.

Technical Memorandum No. 2, Geologic Assessment, is the second in a series of seven technical memoranda that summarize the results and transmits data gathered during the Phase IIA RI. These technical memoranda form the supporting basis for the RI report and any additional work to be completed at NAS Whiting Field. The Phase IIA RI field program was conducted between April 1992 and February 1994. The following is a complete list of technical memoranda:

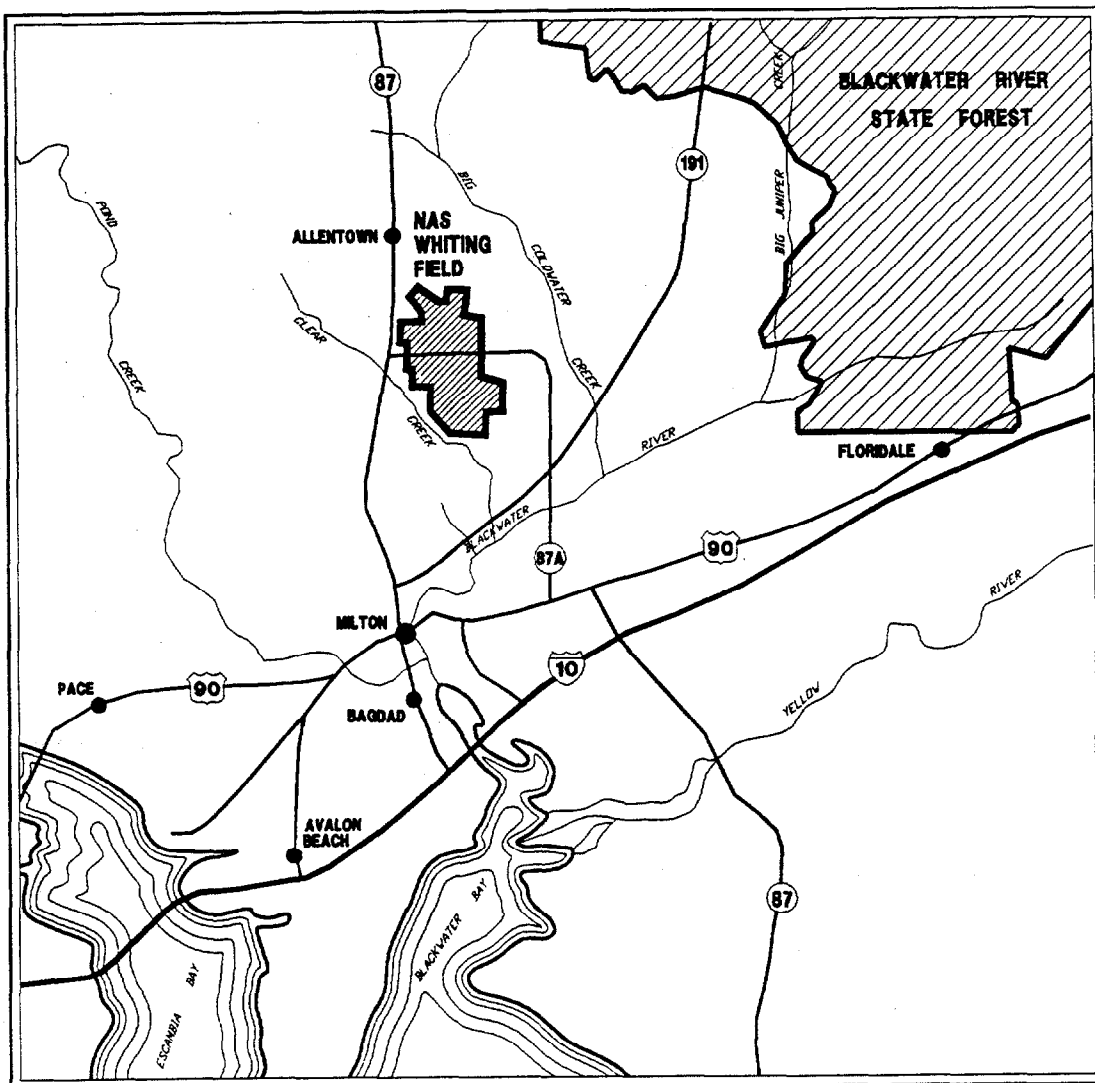
- No. 1, Surface Water and Sediment Assessment;
- No. 2, Geologic Assessment;
- No. 3, Soils Assessment;
- No. 4, Hydrogeologic Assessment;
- No. 5, Groundwater Assessment;
- No. 6, Overall Phase IIA RI Assessment; and
- No. 7, Workplan and Recommendations for Phase II-B RI

Installation Location and Description. NAS Whiting Field is located in Florida's northwest coastal area approximately 7 miles north of Milton and 20 miles northeast of Pensacola (Figure 1-1). NAS Whiting Field presently consists of two air fields separated by an industrial area covering approximately 2,560 acres in Santa Rosa County. Figure 1-2 presents the installation layout.

NAS Whiting Field, home of Training Air Wing Five (TRAWING FIVE), was constructed in the early 1940's. Subordinate commands currently stationed at NAS Whiting Field include: training squadrons VT-2, VT-3, VT-6, HT-8, and HT-18 (SOUTHNAVFACENGCOM, 1988). It has served as a Naval Aviation Training Facility since being commissioned as the Naval Auxiliary Air Station Whiting Field in July 1943.

The mission of NAS Whiting Field is to train student naval aviators in the use of basic instruments, formation and tactic phases of fixed-wing and propeller-driven aircraft, and basic and advanced helicopter training.

1.1 PURPOSE OF THE REMEDIAL INVESTIGATION AND FEASIBILITY STUDY (RI/FS). The purpose of the NAS Whiting Field RI/FS is to identify a range of remedial alternatives to address any identified risks to public health and the environment posed by toxic or hazardous chemicals present as a result of past waste disposal practices or spills. To achieve this objective, the RI process must collect data to assess the nature and distribution of chemicals associated with each site. The data collected during the RI field program will be used in the FS to screen, evaluate, and select remedial alternatives to provide permanent, feasible solutions to environmental contamination problems at NAS Whiting Field.



MAP LOCATION

Source: ABB Environmental Services Inc. 1992b

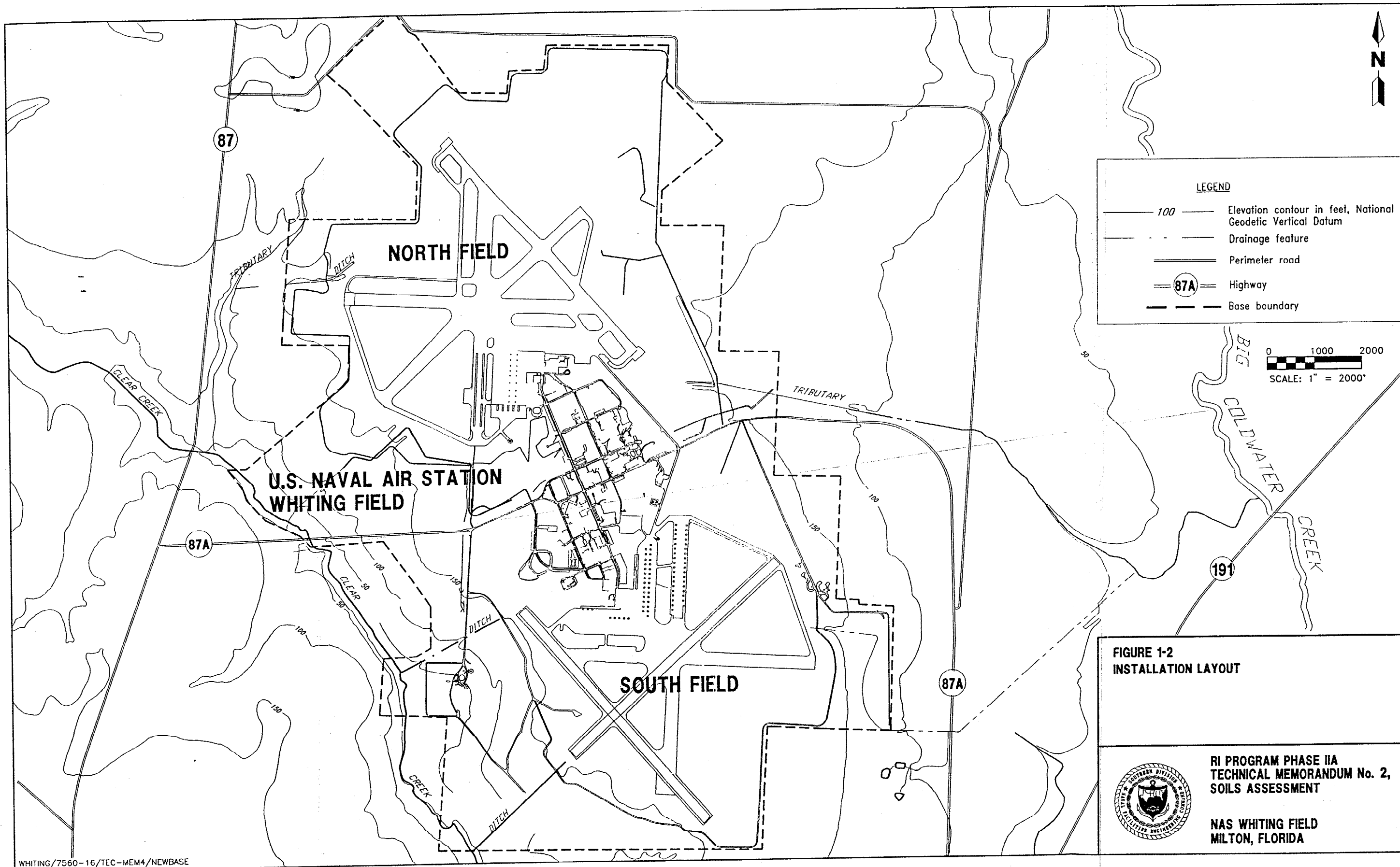
**FIGURE 1-1
FACILITY LOCATION MAP**



**RI PROGRAM PHASE IIA
TECHNICAL MEMORANDUM No. 2,
SOILS ASSESSMENT**

**NAS WHITING FIELD
MILTON, FLORIDA**

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The Navy Installation Restoration (IR) program was designed to identify and abate or control contaminant migration resulting from past operations at naval installations. The IR program is the Navy response authority under Section 120 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980 as amended by the Superfund Amendments and Reauthorization Act (SARA) of 1986 and Executive Order 12580. CERCLA requires that Federal facilities comply with the act, both procedurally and substantively. SOUTHNAVFACENGCOM is the agency responsible for the Navy IR program in the southeastern United States. Therefore, SOUTHNAVFACENGCOM has the responsibility to process NAS Whiting Field through Preliminary Assessment (PA), Site Investigation (SI), priority listing, RI/FS, and remedial response selection in compliance with the guidelines of the National Oil and Hazardous Substances Pollution Contingency Plan (NCP) (40 Code of Federal Regulations [CFR] 300).

Section 105(a)(8)(A) of SARA required the U.S. Environmental Protection Agency (USEPA) to develop criteria to set priorities for remedial action based on relative risk to public health and the environment. To meet this requirement, USEPA has established the Hazard Ranking System (HRS) as Appendix A to the NCP. The HRS is a scoring system designed to assess relative threat to public health and the environment posed by documented or potential releases of hazardous substances at a site. First promulgated in 1982, the HRS was amended in December 1990, effective March 14, 1991 (55 Federal Register No. 241:51532-51667), to comply with requirements of Section 105(c)(1) of SARA to increase the accuracy of the assessment of relative risk. The newly promulgated HRS (March 1991) has been substantially revised and is designed to prioritize sites after the SI phase of the CERCLA process. The SI or extended SI is used to present the required data to expeditiously perform an HRS ranking.

Based on the HRS score generated for the facility, on January 18, 1993, the USEPA proposed NAS Whiting Field to be included on the National Priority List (NPL) (40 CFR 300, Federal Register, Vol. 59 No. 11, January 18, 1994). On May 31, 1994, NAS Whiting Field was officially placed on the NPL (40 CFR 300, Federal Register, Vol. 59 No. 103, May 31, 1994). Subsequently, the RI/FS for NAS Whiting Field must follow the requirements of the NCP, as amended by SARA, and guidance for conducting RI/FS under CERCLA (USEPA, 1988a).

1.2 RI/FS BACKGROUND.

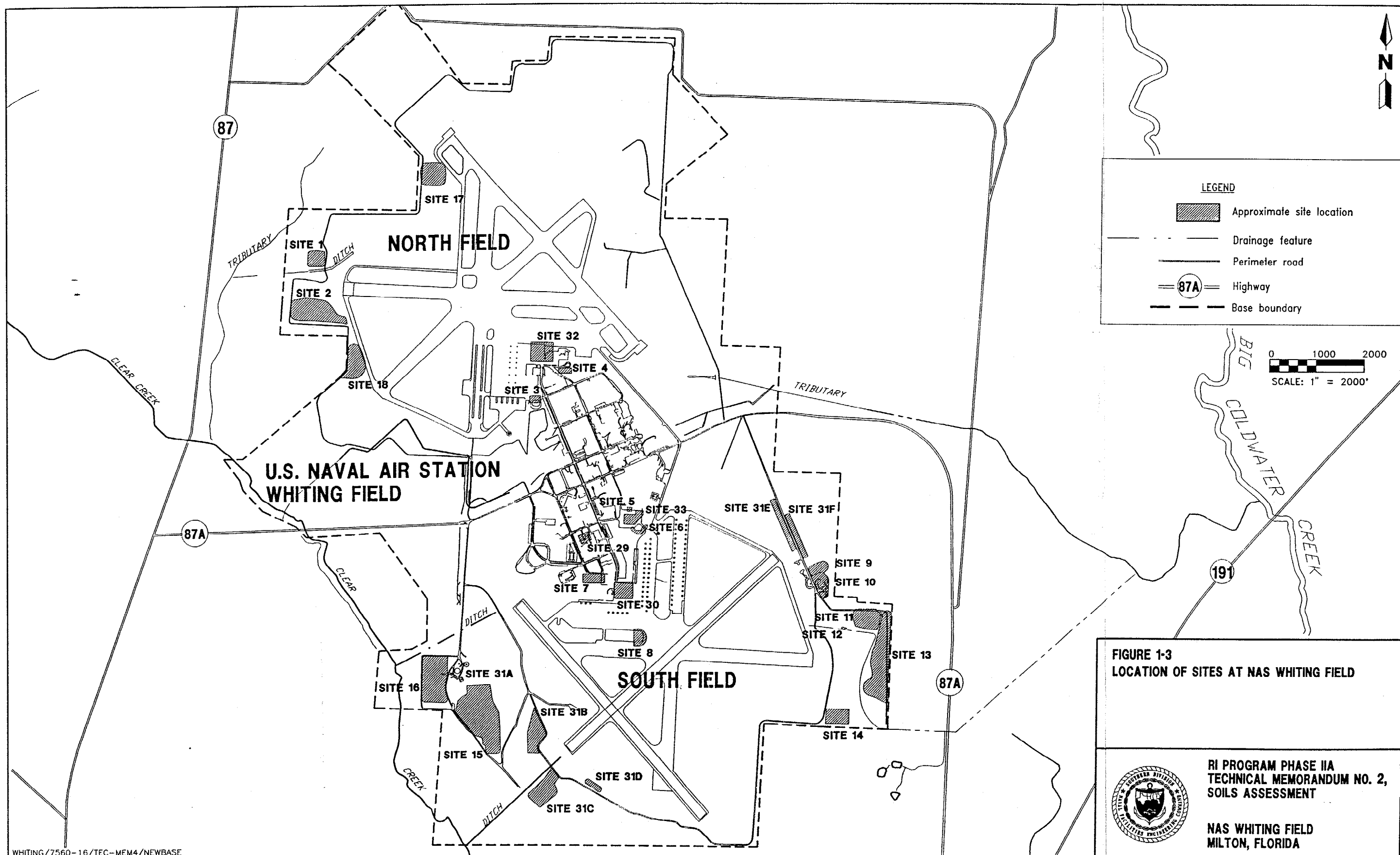
Previous Investigations. Four investigations were conducted at NAS Whiting Field prior to the implementation of the Phase IIA RI/FS (Table 1-1). The Initial Assessment Study (IAS), Confirmation Study, and RI Phase I were completed in response to CERCLA requirements. The Battery Acid Seepage Pit (Site 5) was investigated under a Consent Order with the Florida Department of Environmental Regulation (FDER; FDER has since been redesignated as the Florida Department of Environmental Protection [FDEP]). These investigations are summarized in the following sections.

Historical records reviewed during the IAS (Envirodyne Engineers, 1985) indicated that throughout the years of operation, NAS Whiting Field has generated a variety of wastes related to pilot training, the operation and maintenance of aircraft and ground support equipment, and the facility maintenance programs. Figure 1-3 provides a map showing the location of sites that have been identified for investigation at NAS Whiting Field. Prior to the establishment of hazardous

**Table 1-1
Summary of Site Investigations**

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Geologic Assessment
NAS Whiting Field, Milton, Florida

Site Number	Site Name	Previous Studies			RI/FS Phase I	Navy's UST Program	RI/FS Phase IIA
		IAS	Verification Study	Consent Order			
1	Northwest Disposal Area	*	*		*		*
2	Northwest Open Disposal Area	*			*		*
3	Underground Waste Solvent Storage Area	*	*		*		*
4	North AVGAS Tank Sludge Disposal Area	*	*			*	
5	Battery Acid Seepage Pit	*		*			*
6	South Transformer Oil Disposal Area	*	*		*		*
7	South AVGAS Tank Sludge Disposal Area	*	*			*	
8	AVGAS Fuel Spill Area	*	*			*	
9	Waste Fuel Disposal Pit	*	*		*		*
10	Southeast Open Disposal Area (A)	*	*		*		*
11	Southeast Open Disposal Area (B)	*	*		*		*
12	Tetraethyl Lead Disposal Area	*	*		*		*
13	Sanitary Landfill	*	*		*		*
14	Short-Term Sanitary Landfill	*	*		*		*
15	Southwest Landfill	*	*		*		*
16	Open Disposal and Burning Area	*	*		*		*
17	Crash Crew Training Area		*		*		*
18	Crash Crew Training Area		*		*		*
29	Auto Hobby Shop						*
30	Southfield Maintenance Hangar Area						*
31	Sludge Drying Beds and Disposal Areas						*
32	Northfield Maintenance Hangar Area						*
33	Midfield Maintenance Hangar Area						*
<p>Notes: Sites 19 through 28 are located on Outlying Landing Field (OLF) Barin and are discussed in separate Technical Memoranda. IAS = Initial Assessment Study. RI/FS = Remedial Investigation and Feasibility Study. UST = underground storage tank. AVGAS = aviation gasoline.</p>							



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waste management programs and programs to recycle waste oil, most of the hazardous wastes were reportedly disposed onsite. Waste materials were disposed either in dumpsters that were emptied into onsite disposal areas or they went into waste oil bowzers, which probably were used for crash crew training. Envirodyne Engineers (1985) estimated that thousands of gallons of wastes including waste paints, paint thinners, solvents, waste oils, waste gasoline, hydraulic fluids, aviation gasoline (AVGAS), tank bottom sludges, polychlorinated biphenyl (PCB) transformer fluids, and paint stripping wastewater were potentially dumped into onsite disposal areas. These disposal areas consisted of natural or man-made depressions located within the confines of the air station. In addition to the waste materials routinely disposed onsite in the disposal areas, additional materials were reportedly released onsite as the result of accidents or equipment failure.

Based on historical data, aerial photographs, field inspections, and personnel interviews, 16 disposal or spill sites of potential contamination and/or contaminant migration were initially identified at NAS Whiting Field by the IAS team.

The IAS report concluded that 15 of the 16 sites warranted further investigation, under the Navy's IR program, to assess potential long-term impacts. Only Site 2, the Northwest Open Disposal Area, was judged not to warrant further consideration.

To evaluate the 15 sites that warranted further investigation, a Confirmation Study, including sampling and monitoring of the sites, was recommended in the IAS to confirm or deny the existence of the suspected contamination and to quantify the extent of any problems that might exist. The results of the Confirmation Study would then be used to evaluate the necessity of conducting mitigating actions or cleanup operations.

The Confirmation Study, as originally planned, consisted of two parts: verification and characterization. In November 1985, Geraghty & Miller, Inc., prepared for the Navy a plan of action for the Verification Study entitled *Naval Assessment and Control of Installation Pollutants, Verification Study, NAS Whiting Field* (Geraghty and Miller, 1985b), which was subsequently submitted to the FDER. This plan contained details of the proposed scope of work for the Verification Study. During discussions with FDER in December 1985, two additional sites (Sites 17 and 18) were added to the Verification Study. Both were active sites at that time where waste fuels and solvents were burned in crash crew training exercises.

In addition, during 1985 one of the sites (Site 5, Battery Acid Seepage Pit) was investigated under a Consent Order with the FDER. Data from this investigation have been compiled in a report entitled *Detection and Monitoring Program, Battery Shop Site, Final Report, NAS Whiting Field, Florida* (Geraghty & Miller, 1985a).

The results of the Verification Study (*Verification Study, Assessment of Potential Ground-Water Pollution at Naval Air Station Whiting Field, Florida*; Geraghty & Miller, 1986) provided an assessment of the physical and chemical conditions currently existing at NAS Whiting Field. Groundwater contamination was detected at some sites and not at others. The study concluded that a Characterization Study was needed to determine the nature and extent of contamination at sites requiring additional study at NAS Whiting Field.

The three-phase (IAS, Confirmation Study, and Remedial Measures) IR program was modified in 1987-88 to be congruent with CERCLA and SARA. Subsequently, the characterization study was not performed and the existing investigations were used to support the updated program. The updated nomenclature and phases include:

- PA and SI,
- RI,
- FS, and
- planning and implementation of remedial design.

Under the updated rules, the IAS became equivalent to a PA and the first part of the Confirmation Study (the Verification Study) functioned as the SI.

The Phase I RI. In December 1990, the Phase I RI was initiated by ABB-ES. The Phase I RI program addressed 14 of the 18 previously identified sites at NAS Whiting Field. Limited investigations were conducted at Sites 2 and 12 during the Phase I RI. No contamination attributable to Sites 2 and 12 was detected and no further action was proposed for both sites. Site 2, the Northwest Open Disposal Area, only received construction and demolition debris and was initially judged in the IAS to warrant no further consideration. However, at a Project Managers' meeting in Atlanta, Georgia, on November 13, 1992, USEPA and FDER requested that additional investigations be conducted at Sites 2 and 12 before no further action could be proposed. Subsequently, Sites 2 and 12 were included for further study within the IR program. Site 5 was not included in the Phase I RI. Site 5, the Battery Acid Seepage Pit, was extensively studied in 1985 (Geraghty & Miller, 1985a) under an FDER Consent Order (84-0253). Results indicated no significant contamination had resulted from past activities at the Battery Acid Shop and the Consent Order was recommended to be rescinded on April 15, 1987. However, the presence of benzene in samples from the existing monitoring wells surrounding the seepage pit warrants further consideration within the investigation of Site 33.

Five additional sites were identified during the Phase I RI and subsequently added to the Phase IIA RI program for contaminant assessment. The site numbers and names are as follows:

- Site 29, Auto Hobby Shop;
- Site 30, South Field Maintenance Hangar;
- Site 31, Sludge Drying Beds and Disposal Areas;
- Site 32, North Field Maintenance Hangar; and
- Site 33, Midfield Maintenance Hangar.

Site numbers 19 through 28 are not used at NAS Whiting Field because they identify sites located at Outlying Landing Field (OLF) Barin in Foley, Alabama.

The locations of all 23 NAS Whiting Field sites are shown in Figure 1-3. Table 1-2 summarizes the historical information collected for these sites.

Underground Storage Tank (UST) Investigations. Sites 4, 7, and 8 were previously being investigated under the Navy's UST program and, therefore, were not incorporated in the Navy's IR program. However, an agreement between the Navy, USEPA, and FDER was made during a Project Managers' meeting at Whiting Field on July 7, 1992, to sample monitoring wells at those sites for full scan target

Table 1-2
Summary of Potential Disposal Sites

Technical Memorandum No. 2
Geologic Assessment
NAS Whiting Field, Milton, Florida

Site No.	Site Name and Type	Location	Period of Operation	Types of Material Disposed	Comments
1	Northwest Disposal Area (landfill)	North Field, west side	1943 to 1965	Refuse, waste paints, thinners, solvents, waste oils, and hydraulic fluids.	Secondary disposal area during this period; site covers 5 acres.
2	Northwest Open Disposal Area (landfill)	North Field, west side	1976 to 1984	Construction and demolition debris, tires, and furniture.	Former borrow pit location, commonly referred to as the "Wood Dump."
3	Underground Waste Solvent Storage Area (tank)	North Field, south of Building 2941	1980 to 1984	Waste solvents, paint stripping residue, and 120-gallon spill.	Wastes generated by paint stripping operations.
4	North AVGAS Tank Sludge Disposal Area	North Field, north of Tow Lane	1943 to 1968	Tank bottom sludge containing tetraethyl lead.	Sludge disposal in shallow holes near tanks.
5	Battery Acid Seepage Pit (contaminated soil)	South Field, southwest of Building 1454	1964 to 1984	Waste electrolyte solution containing heavy metals and waste battery acid.	Pits located 110 feet from potable supply well (W-S2).
6	South Transformer Oil Disposal Area (contaminated soil)	South Field, southeast of Building 1454	1940's to 1960's	PCB-contaminated dielectric fluid.	Disposal in "0-2" drainage ditch.
7	South AVGAS Tank Sludge Disposal Area (landfill and tanks)	South Field, west of Building 1406	1943 to 1968	Tank bottom sludge containing tetraethyl lead.	Sludge disposed in shallow holes near tanks.
8	AVGAS Fuel Spill Area (contaminated soil)	South Field, south of Building 1406	Summer 1972	AVGAS containing tetraethyl lead.	Fuel spill of about 25,000 gallons on an area of about 2 acres.
9	Waste Fuel Disposal Pit (landfill)	South Field, east side	1950's to 1960's	Waste AVGAS containing tetraethyl lead.	Fuel disposed in former borrow pit.
10	Southeast Open Disposal Area (A) (landfill)	South Field, southeast area	1965 to 1973	Construction and demolition debris, waste solvents, paint, oils, hydraulic fluid, PCBs, pesticides, and herbicides.	Secondary disposal area during this period; site covers about 4 acres.
11	Southeast Open Disposal Area (B) (landfill)	South Field, southeast area	1943 to 1970	Construction and demolition debris, waste solvents, paint, oils, hydraulic fluid, and PCBs.	Secondary disposal area during this period; site covers about 3 acres.

See notes at end of table.

Table 1-2 (Continued)
Summary of Potential Disposal Sites

Technical Memorandum No. 2
Geologic Assessment
NAS Whiting Field, Milton, Florida

Site No.	Site Name and Type	Location	Period of Operation	Types of Material Disposed	Comments
12	Tetraethyl Lead Disposal Area (waste pile)	South Field, southeast area	May 1, 1968	Tank bottom sludge and fuel filters contaminated with tetraethyl lead.	Disposal area posted with warning; site consists of two earth covered mounds; 25 foot by 25 foot area.
13	Sanitary Landfill (landfill)	South Field, southeast area	1979 to 1984	Refuse, waste solvents, paint, hydraulic fluids, and asbestos.	Primary sanitary landfill, potentially received hazardous wastes the first year of operation.
14	Short-Term Sanitary Landfill (landfill)	South Field, southeast area	1978 to 1979	Refuse, waste solvents, oils, paint, and hydraulic fluids.	Primary sanitary landfill for brief period; relocated due to drainage problems.
15	Southwest Landfill (landfill)	South Field, southwest area	1965 to 1979	Refuse, waste paints, oils, solvents, thinners, asbestos, and hydraulic fluid.	Primary landfill for this time period; covers about 15 acres.
16	Open Disposal and Burning Area (landfill)	South Field, southwest area	1943 to 1965	Refuse, waste paints, oils, solvents, thinners, PCBs, and hydraulic fluid.	Primary disposal area for this time period; covers about 10 acres.
17	Crash Crew Training Area (contaminated soil)	North Field, west side	1951 to present	JP-4.	Waste fuels and some solvents ignited, then extinguished.
18	Crash Crew Training Area (contaminated soil)	North Field, west side	1951 to 1990	JP-4.	Waste fuels and some solvents ignited, then extinguished.
29	Auto Hobby Shop	Area around Building 1404	1940's to 1990	Paint, oils, and solvents	Abandoned underground waste oil tanks.
30	South Field Maintenance Hangar	Area around Building 1406	1940's to present	Fuels, solvents, and oils	Abandoned underground waste oil tanks.
31	Sludge Drying Beds and Disposal Areas	Wastewater Treatment Plant and along perimeter roads	1940's to present	Wastewater Treatment Plant sludge.	Sludge from beds spread on ground along perimeter road.
32	North Field Maintenance Hangar	Area around Building 1424	1940's to present	Fuels, solvents, and oils	Abandoned underground waste oil tanks.
33	Midfield Maintenance Hangar	Area around Building 1454	1940's to present	Fuels, solvents, and oils	Abandoned underground waste oil tanks.

Notes: AVGAS = aviation gasoline.
PCB = polychlorinated biphenyls.
JP-4 = jet propellant 4.

compound list (TCL) and target analyte list (TAL) analytes. Based on the results of the analyses, the decision would be made to retain Sites 4 and 7 within the UST program or to transfer them into the Navy's IR program. The field work was completed between August 16 and 30, 1993, and included the collection of groundwater samples from 11 monitoring wells at Site 4 (UST Site 1467) and 19 monitoring wells at Site 7 (UST Site 1466).

The results of the UST program investigation were reported in the Jurisdiction Assessment Report (ABB-ES, 1994). The report concluded that the benzene, toluene, ethylbenzene, and xylene (BTEX) and trichloroethene (TCE) plumes at the sites are co-mingled and that petroleum contaminants could not be remediated without design considerations for TCE contamination. Based on these findings, recommendations were made in the report that the sites be returned to the IR program.

The decision by the Navy, USEPA, and FDEP to act on these recommendations is currently pending.

Site 8 (UST Site 3054) was investigated under a separate contamination assessment conducted on July 17, 1993. The results of the investigation were reported in the Contamination Assessment Report (CAR) Addendum for Site 3054 (IR Site 8), NAS Whiting Field, Milton, Florida (ABB-ES, 1993). Based on the CAR and the additional field investigation, a No Further Action Proposal (NFAP) was recommended for the site.

On January 20, 1994, the FDEP accepted the NFAP presented in the CAR Addendum and a Site Rehabilitation Completion order was signed by the Director of the Division of Waste Management.

1.3 PHASE I GEOLOGIC INVESTIGATION RESULTS AND CONCLUSIONS. Several subsurface exploration techniques were used during the Phase I investigation to further investigate the presence of contaminants, evaluate and characterize the stratigraphy at the installation, support aquifer testing in the industrial area, confirm groundwater flow direction, and further investigate the potential presence of a continuous clay confining layer throughout NAS Whiting Field. Exploration techniques included: monitoring well and piezometer installation, borehole geophysics, and piezocone penetrometer (PCPT) soundings. Lithologic descriptions for Phase I monitoring wells, piezometers, and PCPT soundings are located in Appendix A. Detailed geologic results of the Phase I RI are presented in Technical Memorandum No. 1 of the Phase I RI (ABB-ES, 1992).

Based on the evaluation of the geologic data collected during Phase I of the RI, the following conclusions were made.

- The subsurface soils at NAS Whiting Field generally consist of massive sand units interbedded with clay, silt, and gravel layers.
- The clay layers ranged in thickness from less than 1 foot to 30 feet and were encountered at depths ranging from land surface to 200 feet below land surface (bls).

- The clay layers were composed of low to high plasticity mottled clay with low plasticity clays containing small to moderate amounts of silt and fine- to medium-grained sand.
- The silt layers were encountered less frequently than clay layers and often contained small amounts of clay and very fine-grained sand.
- The sand units were commonly composed of poorly graded sand of very fine- to coarse-grained size.
- The gravel, when encountered, was most frequently encountered with coarse-grained sand at depths greater than 50 feet bls and in layers less than 1 foot thick.
- The presence or absence of a laterally continuous confining clay layer, above the terminal depth of the soil boring investigation, was not confirmed.
- Clay layers found to be partially continuous or continuous below the southeastern and northwestern disposal areas site groupings may create locally semi-confining conditions.

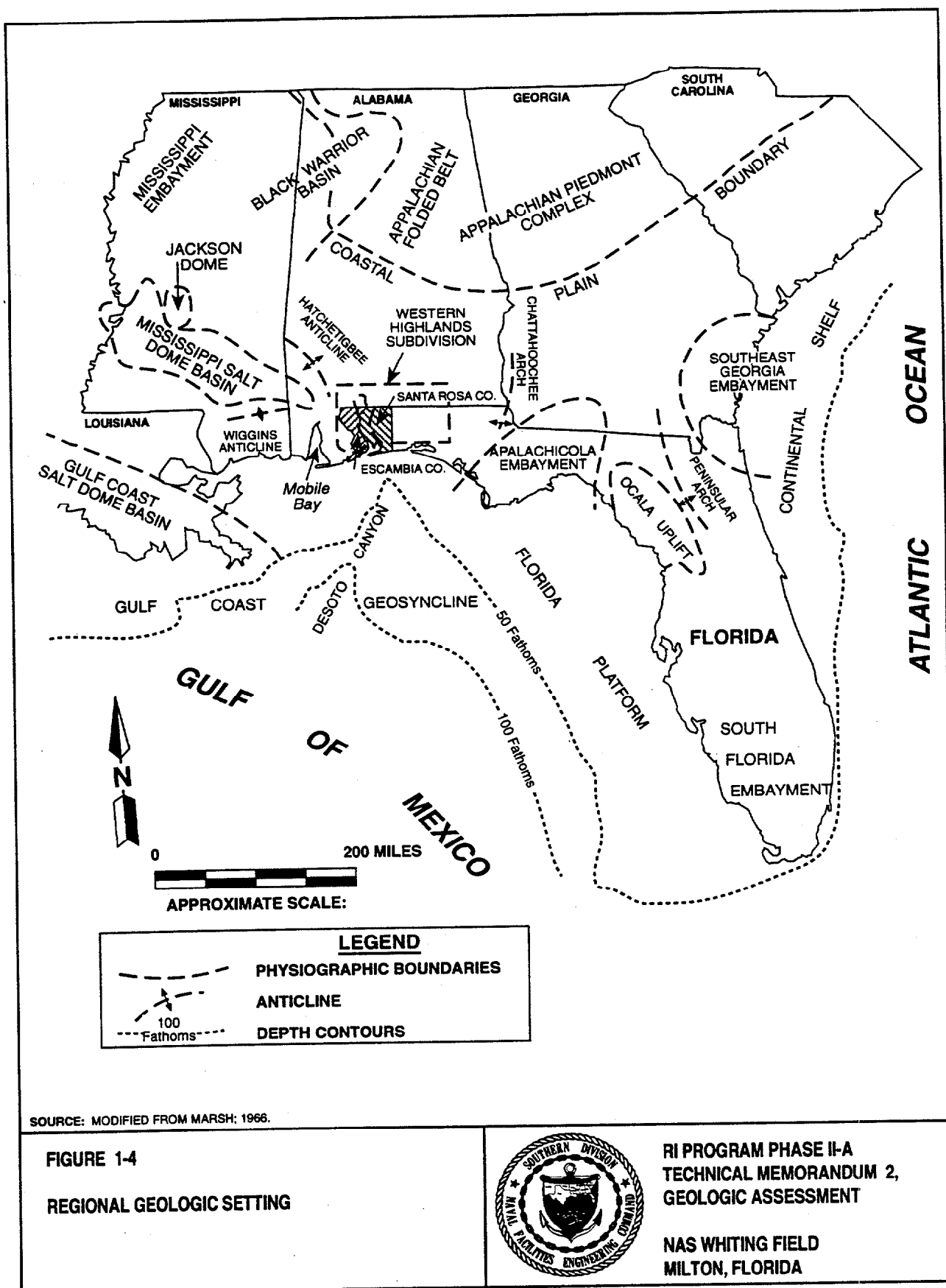
Geologic data gaps existed after the completion of the Phase I geologic assessment. Local clay layers were detected at several sites; however, the total areal extent of the investigation was insufficient to conclude that a clay layer existed throughout the installation.

1.4 OBJECTIVES OF THE PHASE IIA GEOLOGIC INVESTIGATION. Several conclusions concerning the lithologic conditions of the soils that underlie the installation were presented in the Phase I Geologic Assessment. However, geologic data gaps concerning the presence or absence of an extensive confining layer were not delineated. Consequently, the following objectives for the Phase IIA investigation were established:

- further characterize the soils of the vadose and saturated zones underlying the individual sites and installation wide,
- map local clay layers and determine the presence or absence of continuous clay layers throughout the installation, and
- explore the stratigraphic column of the soils between the Industrial Area and the Southwestern Disposal Area (using a PCPT exploration technique).

Chapter 2.0 presents the methods used to achieve these objectives. The results of the Geologic Assessment are presented in Chapter 3.0 of this report.

1.5 GEOLOGIC SETTING. The majority of Santa Rosa County, including NAS Whiting Field, is located in the Western Highlands subdivision of the Coastal Plain Physiographic province. The Coastal Plain Physiographic province is a major division of the United States that extends eastward from Texas and as far north as New York (Marsh, 1966; Figure 1-4). The Coastal Plain is primarily underlain



SOURCE: MODIFIED FROM MARSH; 1966.

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by beds of sand, silt, clay, and limestone that dip gently towards the coast. Most of these sediments were deposited during periods of elevated sea levels.

The Western Highlands subdivision consists of a well drained southward sloping plateau that has been eroded by numerous streams (Scott, 1992). Three marine shorelines can be recognized from existing topographic profiles across Escambia and Santa Rosa Counties. The shoreline at 30 feet above National Geodetic Vertical Datum (NGVD) is visible as the Pimlico terrace; the Penholoway terrace represents the relic shoreline at 70 feet above NGVD, and the third shoreline is a seaward sloping upland surface ranging from 70 to 270 feet above NGVD (Marsh, 1966).

NAS Whiting Field is located on an upland area where elevations range from 50 to 190 feet above sea level. The facility is bounded by two creeks. Clear Creek is located to the west and south of the installation and Big Coldwater Creek is located to the east. The creeks are tributaries to the Blackwater River, which discharges to the estuarine waters of the East Bay of the Escambia Bay coastal system (Figure 1-1).

The southwestward dip of all the formations (down to the Cretaceous period deposits) in Santa Rosa County is explained by the fact that the area is located on the east flank of the Mississippi embayment (influencing a westward dip) and the northern flank of the Gulf Coast Geosyncline (creating a southward dip) (Marsh, 1966). The Gulf Coast geosyncline (Figure 1-4), located slightly south of the present coastline, was created by subsidence during deposition of 50,000 feet of Tertiary deposits. The local structure created by these regional features is a simple homocline with few faults and folds in northern Santa Rosa County.

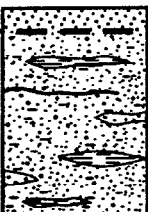
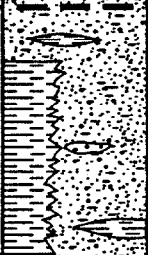
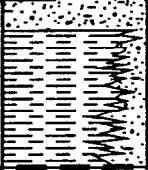



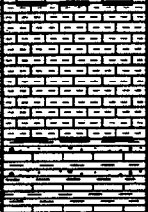

Stratigraphy and Lithology. The subsurface geology of Santa Rosa County has more in common with the central Gulf Coast of Alabama, Mississippi, and Louisiana than it does with that of peninsular Florida. Only two peninsular Florida units (the Tampa Formation and the Ocala Group) are present within the area (Marsh, 1966).

NAS Whiting Field is underlain by a thick sequence of Tertiary sedimentary formations. A generalized geologic column of these formations is presented in Figure 1-5. The regional geologic characterization presented in this section was compiled using numerous documents prepared by the Florida Geologic Survey (Marsh, 1966; Musgrove and others, 1965; Scott, 1992) and other outside sources (see References).

The oldest formation studied in the panhandle area (Escambia and Santa Rosa Counties) is the Hatchetigbee Formation of the early Eocene series. This formation is composed of silty clay with beds of glauconitic shale and shaly limestone. The average thickness of the Hatchetigbee Formation is 315 feet (Marsh, 1966).

Overlying the Hatchetigbee is the Tallahatta Formation of middle Eocene, which consists of shale and siltstone deposits interbedded with gray limestone and well sorted sand. Above the Tallahatta is the Lisbon equivalent that has been correlated with the Lisbon Formation of Alabama. The Lisbon is approximately 500 feet thick and consists of a shaly limestone (Marsh, 1966; Scott, 1992).

GENERALIZED GEOLOGIC COLUMN OF FORMATIONS IN THE WESTERN FLORIDA PANHANDLE

THICKNESS	SERIES	GRAPHIC SECTION	FORMATION
APPROXIMATE THICKNESS	PLEISTOCENE		MARINE TERRACE DEPOSITS : Sand, light tan, fine to coarse
250' - 400'	PLEISTOCENE (?)		CITRONELLE FORMATION : Sand with lenses of clay and gravel. Sand, light-yellowish-brown to reddish-brown, very fine to very coarse and poorly sorted. Hardpan layers in upper part. Logs and carbonaceous zones present in places. Fossils extremely scarce except near the coast where shell beds may be the marine equivalent of the fluvial facies of the Citronelle.
100' - 300'	UPPER MIOCENE		MIOCENE COARSE CLASTICS : Fossiliferous sand with lenses of clay and gravel. Sand is light-gray to light-brown, very fine to very coarse and poorly sorted. Fossils abundant, mostly minute mollusks. Contains a few zones of carbonaceous material. Lower part of coarse clastics present only in northern part of area, interfingering with Pensacola Clay in the central part.
100' - 250'	UPPER MIDDLE TO LOWER UPPER MIOCENE		PENSACOLA CLAY : Formation consists of an Upper Member and Lower Member of dark-to-light-gray, tough, sandy clay; separated by the Escambia Sand Member of gray, fine to coarse, quartz sand. Contains carbonized plant fragments, and abundant mollusks and foraminifers. Pensacola Clay is present only in southern half of area; interfingering with the Miocene coarse clastics in the central part.
100' - 150'	LOWER MIOCENE AND UPPER OLIGOCENE		CHICKASAWHAY LIMESTONE AND TAMPA FORMATION UNDIFFERENTIATED : Tampa: Limestone, light-gray to grayish-white, hard, with several beds of clay; Chickasawhay: Dolomitic limestone, gray, vesicular.
100' - 150'	MIDDLE OLIGOCENE		BUCATUNNA CLAY MEMBER OF BYRAM FORMATION : Clay, dark-gray soft, silty to sandy, foraminiferal, carbonaceous.
165'	UPPER EOCENE		OCALA GROUP : Limestone, light-gray to chalky-white foraminifers extremely abundant, esp. <i>Lepidocyclina</i> ; corals, echinoids, mollusks, bryozoans.
500'	MIDDLE EOCENE		LISBON EQUIVALENT : Shaly limestone, dark-gray to grayish-cream; hard, compact; glauconitic; with thick intervals of dense, light-gray shale.
300' - 400'			TALLAHATTA FORMATION : Shale and siltstone, light-gray, hard, with numerous interbeds of gray limestone and very fine to coarse, pebbly sand. Foraminifers locally abundant.
315'	LOWER EOCENE		HATCHETIGBEE FORMATION : Clay, gray to dark-gray, micaceous, silty, with beds of glauconitic shale, siltstone, and shaly limestone. Mollusks, foraminifers, corals, echinoids. Bashi Marl Member (about 10 feet thick) at base.

Source: Modified from Marsh; 1966.

FIGURE 1-5

GENERALIZED GEOLOGIC COLUMN
OF WESTERN FLORIDA PANHANDLE



RI PROGRAM PHASE II-A
TECHNICAL MEMORANDUM 2
GEOLOGICAL ASSESSMENT

NAS WHITING FIELD
MILTON, FLORIDA

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The upper Eocene series is represented by the Ocala Group. The Ocala is a light-gray limestone and averages 165 feet in thickness. Fifty-seven species of Foraminifera were identified in this group. Unconformably overlying the Ocala is the Bucatunna Clay member of the Byram Formation. The Bucatunna is a dark gray soft clay averaging 125 feet in thickness throughout the western Florida Panhandle (Marsh, 1966; Scott, 1992).

The Chickasawhay Limestone and Tampa Formation are so similar in the western Panhandle that they are presented as undifferentiated on the geologic column. The Chickasawhay is a gray dolomitic limestone and the Tampa is a light gray to white hard limestone (generally not dolomitic). These undifferentiated sediments range in thickness from 30 to 270 feet in western Florida; however, they are believed to be between 100 and 150 feet thick in northern Santa Rosa County (Marsh, 1966; Scott, 1992).

Above the Chickasawhay-Tampa Formation lies the Pensacola clay, which consists of an upper and lower member of dark to light gray, sandy clay. These two members are separated by the Escambia sand member of gray, fine- to coarse-grained sand (Marsh, 1966; Scott, 1992). The upper member of the Pensacola clay is not present in the immediate vicinity of NAS Whiting Field and the lower member is believed to pinch out north of the installation (Marsh, 1966).

Miocene coarse clastics, however, are present throughout the western Florida Panhandle. These coarse clastics are described as brown to gray, poorly sorted sand and gravel with thick lenses of clay. These sediments overlie the Chickasawhay limestone in the vicinity of NAS Whiting Field (Marsh, 1966).

The Citronelle Formation of Pleistocene age overlies the Miocene coarse clastics and is very similar in composition. The two units are differentiated by the abundance of shells in the Miocene coarse clastics. The thickness of the Citronelle Formation ranges from 40 to 800 feet in westernmost Florida, and between 250 and 400 feet in northern Santa Rosa County. The Citronelle Formation also contains layers of fossil wood, limonite cemented zones, shells, and kaolinitic burrows of aquatic animals (Marsh, 1966; Scott, 1992).

The marine terrace deposits mentioned above are thin in comparison to the Citronelle Formation and are indistinguishable from Citronelle sediments. They are typically included in the average thickness of the formation (Marsh, 1966).

In Escambia and Santa Rosa Counties, the Citronelle Formation consists principally of quartz sand that contains numerous lenses, beds, and stringers of clay and gravel. The lithology changes abruptly over short distances. The sand is typically light yellowish brown to reddish brown, although some is white or light grey. The grains are typically angular to subangular and very poorly sorted, ranging from very fine- to very coarse-grained. Clay occurs in lenses as thick as 60 feet and is primarily white or grey in color, although lavender and yellow brown are not uncommon. The rapid facies changes, absence of fossils, and presence of sand and gravel suggest that the shallow sediments of the sand and gravel aquifer were deposited in an environment similar to the current Mississippi River delta. The sediments were probably deposited in stream channels that continually shifted back and forth across the face of the delta. The clay lenses were deposited in quiet pools or abandoned channels whereas the gravel was deposited in swift moving streams nearby (Musgrove and others, 1965).

2.0 SUMMARY OF GEOLOGIC FIELD INVESTIGATION

The Phase IIA geologic field investigation included a PCPT investigation, a soil boring investigation, and monitoring well installations. The investigations were conducted between October 1992 and August 1993. A total of 57 subsurface soil borings were drilled at 9 of the RI sites; 76 monitoring wells were installed at 17 sites; and 7 PCPT soundings were completed between the Industrial Area and the Southwest Disposal Area. Detailed lithologic descriptions for all soil borings, monitoring wells, and PCPT soundings are located in Appendices B, C, and D, respectively. In addition to the data generated from these operations, lithologic descriptions of monitoring wells installed during the ABB-ES UST investigation were used in this report to provide additional lithologic information and to more accurately describe the extent of the clay layer in the industrial area (Appendix E).

2.1 SOIL BORING INVESTIGATION. The soil boring program was conducted from December 1992 to January 1993. A total 57 subsurface soil borings were completed at Sites 2, 3, 6, 17, 18, 29, 30, 32, and 33. These sites are located within the Industrial Area and the northwest area of the facility. Table 2-1 summarizes the number of soil borings completed at each site along with their total depths and completion date.

The soil boring investigation used a hollow-stem auger drilling technique. The augers were typically advanced in 5-foot intervals at which depths a standard penetration test (SPT) was conducted and a 2-foot split-spoon sample was collected for visual inspection by an ABB-ES geologist. All data were entered into a bound log book. Detailed soil descriptions, SPT results, and other pertinent data are presented in the boring logs for the soil boring investigation located in Appendix A of this Technical Memorandum.

2.2 MONITORING WELL INSTALLATION PROGRAM. Monitoring well installations were conducted in conjunction with the hydrogeologic and groundwater investigations (summarized in Technical Memoranda 4 and 5, respectively). Seventy-six monitoring wells were installed at 17 sites and 3 background locations.

In addition to the data generated during the Phase IIA RI, data collected during the Phase I RI (ABB, 1992), the Verification Study (Geraghty & Miller, 1986), and the ABB-ES UST program were also reviewed to augment the data from the current investigation. However, the lithologic descriptions presented in the Verification Study were significantly different than descriptions of adjacent borings drilled during more recent studies. The lack of detail in the boring logs made correlation with more recent borings impossible. Because the accuracy of the older descriptions could not be verified against archived samples, as is the case with Phase IIA RI samples, the data were not included in the cross sections. The installation dates and total boring depths for Phase IIA wells are summarized in Table 2-2. Details for monitoring wells installed during the Phase I RI and the Verification Study are summarized in Table 2-3. Lithologic data were also recorded during monitoring well installation. Split-spoon samples were generally collected at 5-foot intervals during drilling of the monitoring wells. However, it was common to skip sampling intervals when lithologic data were available from proximal soil borings and/or monitoring wells.

Table 2-1
Summary of Phase IIA Soil Borings

Technical Memorandum No. 2
Geologic Assessment
NAS Whiting Field, Milton, Florida

Boring Designation	Completion Date	Total Boring Depth, (feet bls)	Boring Designation	Completion Date	Total Boring Depth (feet bls)
Site 2			Site 29		
WHF-2-SB-1	7-30-93	70	WHF-29-SB-1	01-08-93	137
Site 3			WHF-29-SB-2	01-06-93	14
WHF-3-SB-1	01-20-93	27	WHF-29-SB-3	01-06-93	12
WHF-3-SB-2	01-09-93	12	WHF-29-SB-4	01-06-93	17
WHF-3-SB-3	01-10-93	12	WHF-29-SB-5	01-06-93	17
WHF-3-SB-4	01-10-93	12	Site 30		
WHF-3-SB-5	01-08-93	12	WHF-30-SB-1	12-08-92	122
WHF-3-SB-6	01-08-93	102	WHF-30-SB-2	01-04-93	22
WHF-3-SB-7	01-27-93	22	WHF-30-SB-3	01-04-93	17
WHF-3-SB-8	01-08-93	12	WHF-30-SB-4	01-05-93	27
WHF-3-SB-9	01-08-93	32	WHF-30-SB-5	01-05-93	17
WHF-3-SB-10	01-08-93	17	WHF-30-SB-6	01-05-93	17
Site 6			WHF-30-SB-7	01-05-93	12
WHF-6-SB-1	12-04-92	22	Site 32		
WHF-6-SB-2	12-04-92	22	WHF-32-SB-1	01-09-93	52
WHF-6-SB-3	12-05-92	119	WHF-32-SB-2	01-09-93	14
WHF-6-SB-4	12-04-92	22	WHF-32-SB-3	01-09-93	22
Site 17			WHF-32-SB-4	01-10-93	47
WHF-17-SB-1	01-19-93	17	WHF-32-SB-5	01-19-93	110
WHF-17-SB-2	01-19-93	12	WHF-32-SB-6	01-11-93	47
WHF-17-SB-3	01-07-93	12	WHF-32-SB-7	01-20-93	32
WHF-17-SB-4	01-19-93	12	WHF-32-SB-8	01-21-93	15
WHF-17-SB-5	01-07-93	22	Site 33		
WHF-17-SB-6	01-07-93	17	WHF-33-SB-1	12-03-92	27
WHF-17-SB-7	01-18-93	17	WHF-33-SB-2	12-03-92	122
WHF-17-SB-8	01-18-93	12	WHF-33-SB-3	12-01-92	22
WHF-17-SB-9	01-06-93	12	WHF-33-SB-4	12-02-92	24
Site 18			WHF-33-SB-5	12-06-92	22
WHF-18-SB-1	01-05-93	10			
WHF-18-SB-2	01-05-93	22			
WHF-18-SB-4	01-05-93	42			
WHF-18-SB-6	01-04-93	25			
WHF-18-SB-7	01-05-93	15			
WHF-18-SB-8	01-04-93	25			
WHF-18-SB-9	01-05-93	15			
WHF-18-SB-10	01-04-93	15			

Notes: Soil boring designations WHF-18-SB-3 and WHF-18-SB-5 were not used because proposed borings were not drilled.

bls = below land surface.

Table 2-2
Summary of Phase IIA Monitoring Well Installations

Technical Memorandum No. 2
Geologic Assessment
NAS Whiting Field, Milton, Florida

Monitoring Well Designation	Completion Date	Total Depth (feet BTOC)	Surface Casing (feet bls)
WHF-BKG-1	05-09-93	121.6	0
WHF-BKG-2	04-27-93	109.22	0
WHF-BKG-3	04-26-93	80.5	0
Site 1			
WHF-1-1S	06-28-93	75.4	0
WHF-1-2	02-21-93	78.8	0
WHF-1-3	06-29-93	87.48	0
Site 2			
WHF-2-1	07-17-93	87.42	0
Site 3			
WHF-3-1D	06-11-93	180.29	104
WHF-3-1S	06-12-93	123.22	105
WHF-3-2D	05-10-93	176.17	0
WHF-3-2S	05-08-93	114.12	0
WHF-3-3D	05-12-93	180.57	112.5
WHF-3-3S	05-06-93	110.8	0
WHF-3-4	07-31-93	121.45	103
WHF-3-7D	05-25-93	180.54	109
WHF-3-7I	05-26-93	139.92	109
WHF-3-7S	06-03-93	123.8	109
Site 5			
WHF-5-8D	04-24-93	174.18	0
WHF-5-8S	03-23-93	128.15	0
WHF-5-9D	04-22-93	180.47	107
WHF-5-9S	04-25-93	128.74	108
WHF-5-10D	03-07-93	183.32	117
WHF-5-10S	04-24-93	144.71	119
Site 6			
WHF-6-1D	05-19-93	180.47	112
WHF-6-1S	05-20-93	134.33	112
WHF-6-3	05-09-93	123.45	0
See notes at end of table.			

Table 2-2 (Continued)
Summary of Phase IIA Monitoring Well Installations

Technical Memorandum No. 2
Geologic Assessment
NAS Whiting Field, Milton, Florida

Monitoring Well Designation	Completion Date	Total Depth (feet BTOC)	Surface Casing (feet bls)
Site 9			
WHF-9-3	02-25-93	108.24	77
Site 10			
WHF-10-2	03-23-93	113.14	85
Site 11			
WHF-11-1S	07-21-93	54.4	0
WHF-11-3	03-09-93	73.16	46
Site 13			
WHF-13-1S	07-20-93	61.3	0
WHF-13-2	03-18-93	72.41	42
Site 14			
WHF-14-2	03-22-93	118.3	94
Site 15			
WHF-15-2I	02-04-93	63.2	0
WHF-15-2S	02-04-93	32.9	0
WHF-15-2D	07-18-93	112.44	0
WHF-15-3D	01-26-93	119.48	0
WHF-15-3I	02-02-93	87.83	0
WHF-15-3S	02-01-93	37.94	0
WHF-15-4	04-28-93	109.15	0
WHF-15-5	02-08-93	68.18	0
WHF-15-6D	02-08-93	123.36	0
WHF-15-6S	02-08-93	43.73	0
Site 16			
WHF-16-2I	02-18-93	130.14	0
WHF-16-2S	02-21-93	49.8	0
WHF-16-3D	01-24-93	118.08	0
WHF-16-3I	01-26-93	52.87	0
WHF-16-3II	01-25-93	78.91	0
WHF-16-3S	01-22-93	23.25	0
WHF-16-4D	02-18-93	122.54	65
WHF-16-4II	02-05-93	64.8	0
WHF-16-4S	02-04-93	22.38	0
WHF-16-5	07-27-93	10	0
See notes at end of table.			

Table 2-2 (Continued)
Summary of Phase IIA Monitoring Well Installations

Technical Memorandum No. 2
Geologic Assessment
NAS Whiting Field, Milton, Florida

Monitoring Well Designation	Completion Date	Total Depth (feet BTOC)	Surface Casing (feet bls)
Site 17			
WHF-17-1S	07-27-93	115.5	36.5
WHF-17-2	03-07-93	121.9	43
WHF-17-3	07-16-93	126.5	0
Site 18			
WHF-18-2	02-22-93	107.86	0
WHF-18-3	06-27-93	112.9	0
Site 29			
WHF-29-1	06-08-93	139.48	0
WHF-29-2	06-13-93	136.9	0
WHF-29-3	06-11-93	139.64	0
WHF-29-4	06-10-93	139.1	0
WHF-29-5	06-09-93	132.14	0
Site 30			
WHF-30-3	06-16-93	134.6	0
WHF-30-4	06-26-93	135.44	0
WHF-30-5	06-25-93	157.53	0
Site 32			
WHF-32-1	01-22-93	110.04	0
WHF-32-2	06-28-93	110.54	0
WHF-32-3	06-26-93	110.02	0
WHF-32-4	06-29-93	110.25	0
WHF-32-5	05-24-93	109.61	0
Site 33			
WHF-33-1	06-15-93	127.44	0
WHF-33-2	06-25-93	128.4	0
WHF-33-3	06-25-93	128.44	0
WHF-33-4	06-16-93	127.94	0
WHF-33-5	05-21-93	125.9	0
Notes: BTOC = below top of casing. bls = below land surface.			

Table 2-3
Summary of Phase I RI, Verification Study and Underground Storage
Tank (UST) Program Monitoring Well Installations

Technical Memorandum No. 2
Geologic Assessment
NAS Whiting Field, Milton, Florida

Monitoring Well Designation	Completion Date	Total Depth (feet BTOC)	Surface Casing (feet bls)
Phase I RI			
WHF-3-3	01-07-91	151	118
WHF-9-2	12-13-90	120	85
WHF-11-2	12-01-90	125	80
WHF-16-2	12-15-90	70	0
WHF-5-OW-1	03-04-91	175	126
WHF-5-OW-2	01-31-91	123	126
Verification Study			
WHF-1-1	*	122.5	0
WHF-3-1	*	152.5	0
WHF-3-2	*	152.5	0
WHF-4-1	*	152.5	0
WHF-7-1	*	142.5	0
WHF-8-1	*	180.0	0
WHF-9-1	*	117.5	0
WHF-10-1	*	117.5	0
WHF-11-1	*	127.5	0
WHF-12-1	*	112.5	0
WHF-13-1	*	112.5	0
WHF-14-1	*	152.5	0
WHF-15-1	*	72.5	0
WHF-16-1	*	42.5	0
WHF-17-1	*	152.5	0
WHF-18-1	*	122.5	0
See notes at end of table.			

Table 2-3 (Continued)
Summary of Phase I RI, Verification Study and Underground Storage
Tank (UST) Program Monitoring Well Installations

Technical Memorandum No. 2
Geologic Assessment
NAS Whiting Field, Milton, Florida

Monitoring Well Number	Completion Date	Actual Depth (feet)	Surface Casing (feet)
UST Program			
Site 1466 (Site 7)			
WHF-1466-1	1-26-92	135	0
WHF-1466-1D	5-12-92	163	138
WHF-1466-2	3-14-92	120	0
WHF-1466-2D	5-10-92	144	132
WHF-1466-3	3-15-92	145	0
WHF-1466-3D	5-11-92	149	126
WHF-1466-4	3-16-92	151	0
WHF-1466-5R	6-04-92	132	0
WHF-1466-6	3-25-92	131	0
WHF-1466-7	3-26-92	131	0
WHF-1466-8	3-27-92	131	0
WHF-1466-9	3-27-92	116	0
WHF-1466-10	3-28-92	122	0
WHF-1466-11	3-29-92	104	0
WHF-1466-12	3-30-92	147	0
WHF-1466-13	5-21-92	130	0
WHF-1466-14	5-22-92	135	0
WHF-1466-15	5-22-92	135	0
WHF-1466-16	5-23-92	135	0
WHF-1466-17	5-24-92	134	0
WHF-1466-18	5-25-92	135	0
WHF-1466-19	5-26-92	145	0
WHF-1466-20	5-26-92	140	0
Site 1467 (Site 4)			
WHF-1467-1	1-07-92	97	0
WHF-1467-2	1-08-92	85	0
WHF-1467-3	1-08-92	95	0
WHF-1467-4	1-09-92	103	0
WHF-1467-5	1-10-92	100	0
WHF-1467-5D	4-08-92	140	0
See notes at end of table.			

Table 2-3 (Continued)
Summary of Phase I RI, Verification Study and Underground Storage
Tank (UST) Program Monitoring Well Installations

Technical Memorandum No. 2
Geologic Assessment
NAS Whiting Field, Milton, Florida

Monitoring Well Number	Completion Date	Actual Depth (feet)	Surface Casing (feet)
UST Program (continued)			
WHF-1467-6	1-10-92	103	0
WHF-1467-6D	5-24-92	102	88
WHF-1467-7	1-11-92	85	0
WHF-1467-7D	5-23-92	129	96
WHF-1467-8	1-11-92	107	0
WHF-1467-8D	5-22-92	127	106
WHF-1467-9	1-12-92	100	0
WHF-1467-10	1-25-92	82	0
WHF-1467-11	1-25-92	90	0
WHF-1467-12	1-27-92	83	0
WHF-1467-13R	5-20-92	90	0
WHF-1467-14	3-11-92	110	0
WHF-1467-15	3-11-92	109	0
WHF-1467-16	3-12-92	115	0
WHF-1467-17	3-13-92	106	0
WHF-1467-18	3-13-92	115	0
WHF-1467-19	3-14-92	105	0
WHF-1467-20	4-10-92	110	0
WHF-1467-21	4-21-92	111	0
WHF-1467-22R	4-22-92	103	0
WHF-1467-23	4-22-92	101	0
WHF-1467-24	4-23-92	100	0
WHF-1467-25	4-24-92	91	0
WHF-1467-26	4-25-92	90	0
WHF-1467-27	4-26-92	116	0
WHF-1467-28	4-27-92	106	0
WHF-1467-29	4-28-92	100	0
WHF-1467-30	4-29-92	103	0
WHF-1467-31	5-09-92	125	0
WHF-1467-32	5-11-92	100	0
WHF-1467-33	5-12-92	84	0

Notes: * = completion date was not provided in the Verification Study.

BTOC = below top of casing.
bls = below land surface.

RI = Remedial Investigation
UST = underground storage tank

Monitoring wells were installed using both hollow-stem auger and mud rotary drilling techniques. The mud rotary technique was used at locations where the boring depth exceeded the surface of the water table. The technique uses heavy drilling mud to circulate out the cuttings and to restrict the formation sand from collapsing.

2.3 PIEZOCONE PENETROMETER (PCPT) INVESTIGATION. Seven PCPT explorations were performed in accordance with American Society for Testing and Materials (ASTM) Designation: *D3441-86 Standard ASTM Method for Deep, Quasi-Static, Cone, and Friction-Cone Penetration Tests of Soils*, Vol. 4.08, 1994. Specifically, a stainless-steel cone tip (equipped with electronic sensors) connected to stainless-steel rods was hydraulically driven into the overburden soils. Measurements of end-bearing resistance, friction resistance, and pore pressure were recorded from the sensors throughout each sounding. The analog signals from the cone tip sensors were digitized for data logging and analyses of the digital data was completed in the field using a data acquisition software system. Based on the cone readings, a lithologic description of the soils was computed with the aid of the software package.

The cone tip was advanced until the friction resistance of the overburden soils exceeded the power of the hydraulic system. All seven explorations were terminated, due to refusal, before attaining the desired depth of 180 feet. In order to obtain additional data beyond the maximum PCPT exploration depth, a drill rig, using mud rotary techniques, was used to extend the explorations. The primary purpose of extending the boring explorations was to collect *in-situ* groundwater samples using the Bengt-Arne-Torstensson (BAT) screening technique. However, during drill operations, occasional split-spoon samples were collected to identify the subsurface lithology and potential groundwater sampling locations. The BAT *in-situ* groundwater sampling technique will be fully described in Technical Memorandum No. 5, Groundwater Assessment. A summary of the sounding designations, completion dates, and proposed and actual depths are provided in Table 2-4. The lithologic descriptions for the sounds are presented in Appendix D.

Table 2-4
Summary of Piezocone Penetrometer (PCPT) Soundings

Technical Memorandum No. 2
Geologic Assessment
NAS Whiting Field, Milton, Florida

PCPT Sounding Designations	Completion Date	Proposed Depth (feet bls)	PCPT Sounding Actual Depth (feet bls)	Maximum Lithologic Sample Depth (feet bls)
WHF-2A-CPT-01	10-12-92	180	97	132
WHF-2A-CPT-02	10-12-92	180	130	152
WHF-2A-CPT-03	10-13-92	180	96	142
WHF-2A-CPT-04	10-14-92	180	105	142
WHF-2A-CPT-05	10-14-92	180	110	122
WHF-2A-CPT-06	10-15-92	180	99	131
WHF-2A-CPT-07	10-15-92	180	85	85

Notes: Piezocone penetrometer sounding depths were extended using a mud rotary drilling technique.

bls = below land surface.

3.0 RESULTS AND INTERPRETATIONS

This chapter presents and interprets the results of the Phase IIA geologic investigation. The interpreted results were used to depict the geologic conditions at NAS Whiting Field. Area-specific, site-specific, and installation-wide findings are summarized in the following sections.

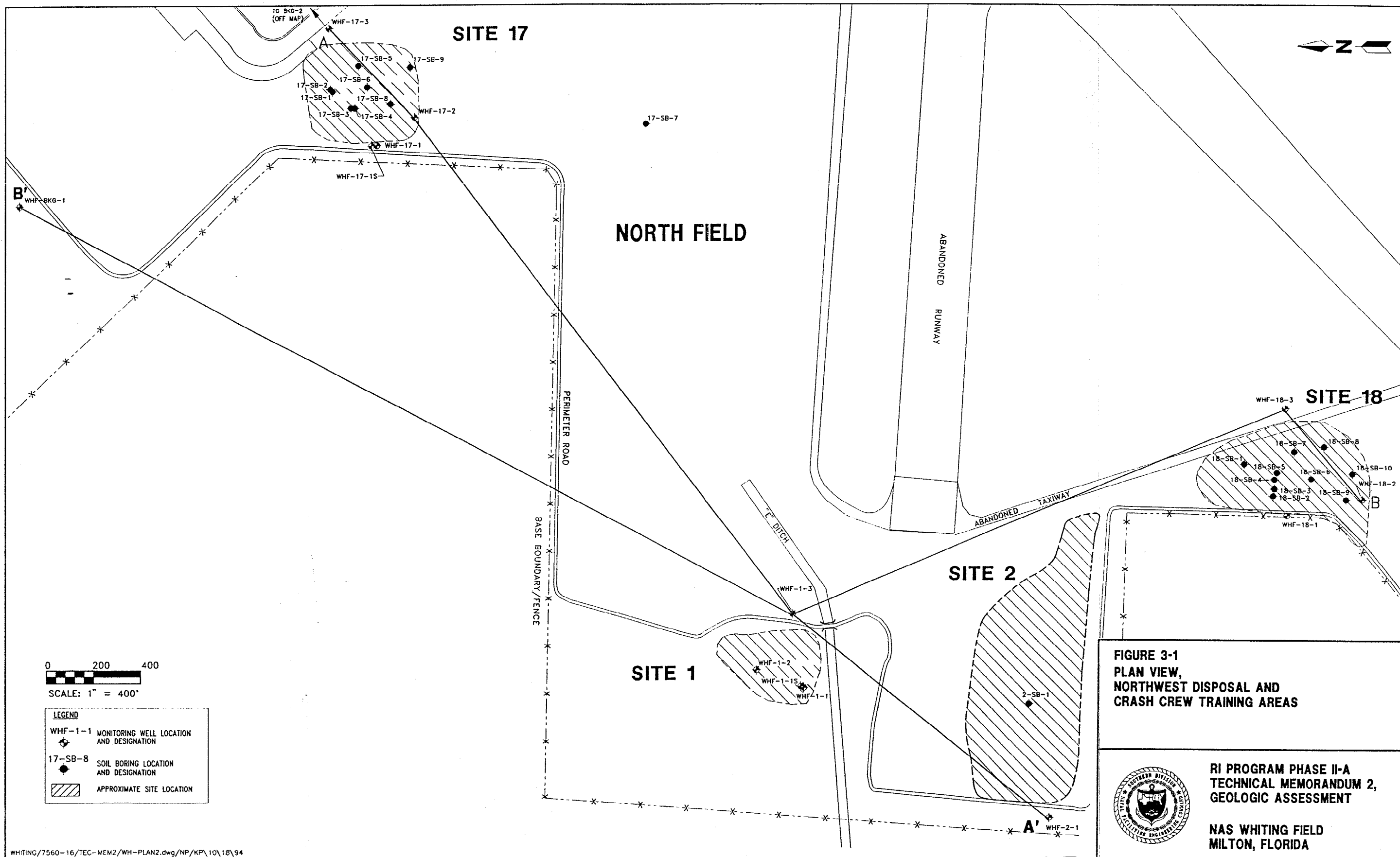
3.1 AREA-SPECIFIC FINDINGS. The following sections summarize lithologic and stratigraphic conditions in the four main areas investigated during the Phase II-A, Geologic Assessment. The areas contain numerous sites that are in close enough proximity to share similar geologic characteristics. Site-specific descriptions for various sites may also be included in this section. A map of each area is presented within Section 3.1. The four areas and the sites that they contain are as follows:

- the Northwest Disposal and Firefighter Training Areas (Sites 1, 2, 17, and 18),
- the Southwest Disposal Area (Sites 15 and 16),
- the Southeast Disposal Area (Sites 9, 10, 11, 12, 13, and 14), and
- the Industrial Area (Sites 3, 4, 7, 32, 5, 6, 33, 29, and 30).

3.1.1 Northwest Disposal and Crash Crew Training Areas The Northwest Disposal and Crash Crew Training Areas encompass Sites 1, 2, 17, and 18 (Figure 3-1). Data from 18 shallow soil borings completed at Sites 17 and 18 (Table 2-1), a deep soil boring at Site 2, and lithologic descriptions from Phase IIA monitoring wells (Table 2-2) were used to generate cross sections (Figures 3-2 and 3-3) and describe geologic conditions.

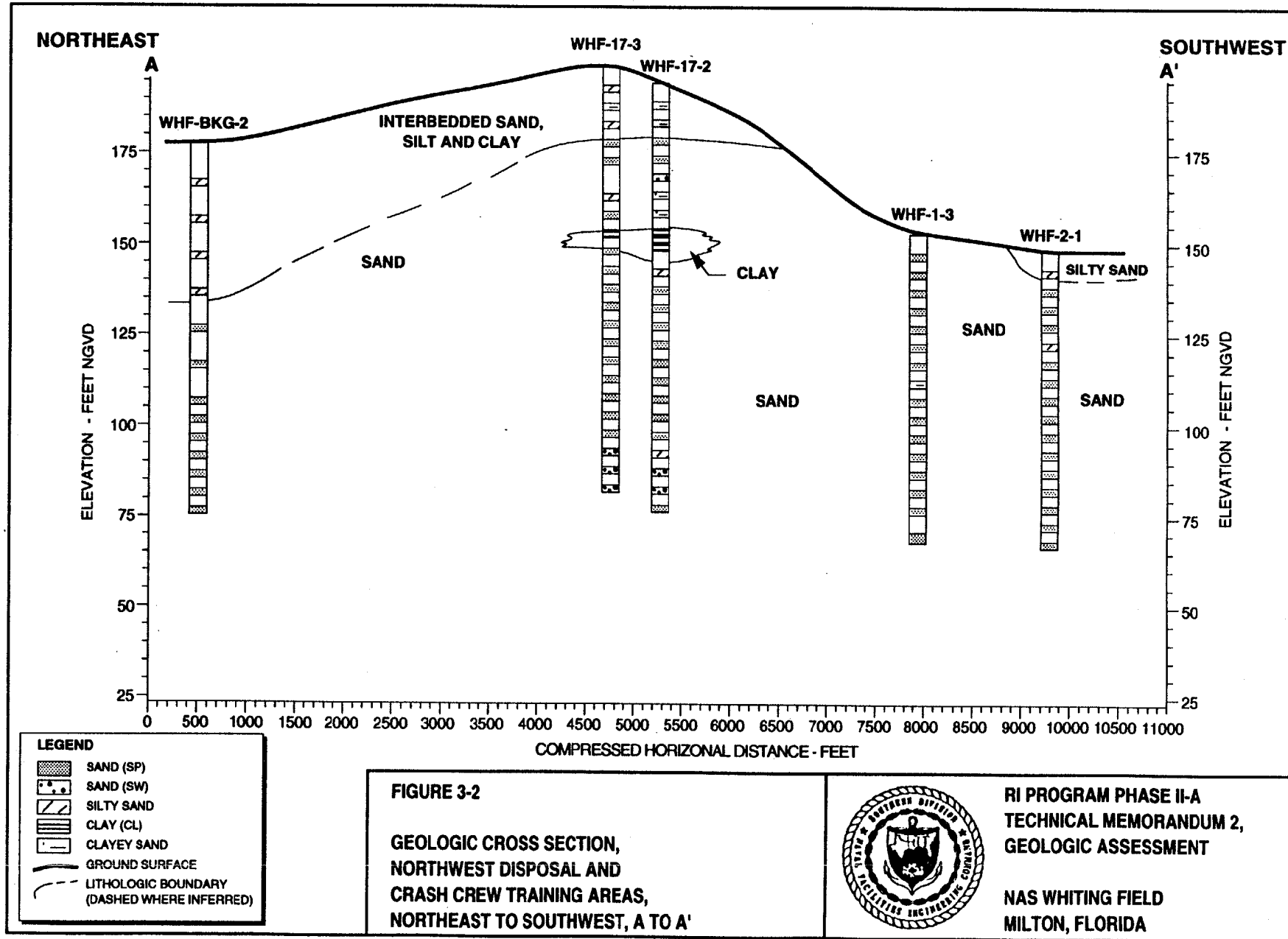
The lithology of the area consists of light colored, poorly graded (fine- to medium-grained) sands. Layers of clay and silt were thin and infrequent below 20 feet (Figures 3-2 and 3-3). The shallow soil, when not excavated from the site (Sites 1 and 2 were previously used as clay pits), tended to be darker in color and contained significant amounts of clay and silt (interbedded sand silt and clay layers). Detailed descriptions can be found in the boring and monitoring well logs located in Appendices B and C.

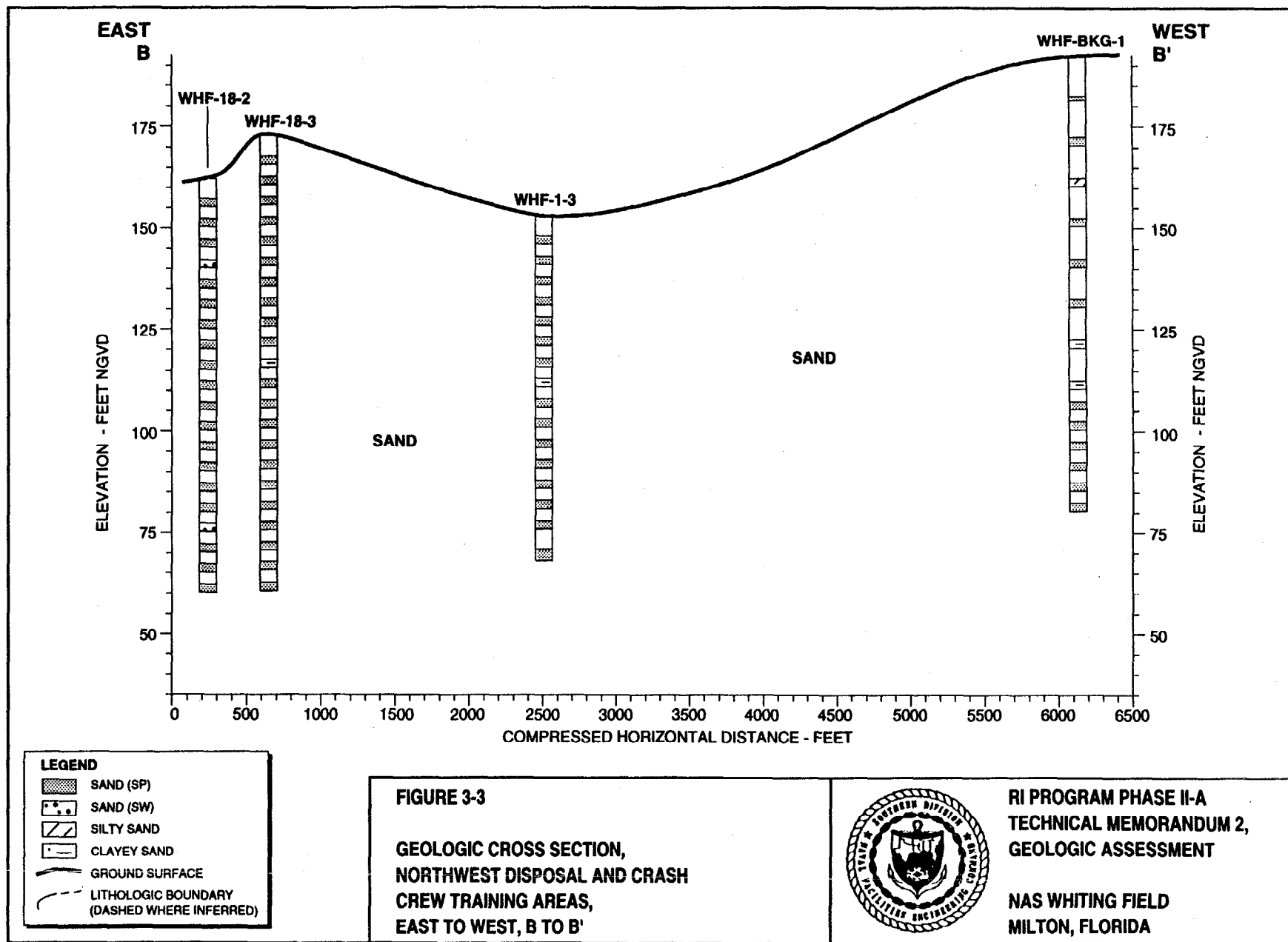
A continuous clay layer is not present in the northwest section of the installation (Figures 3-2 and 3-3). A significant clay layer (greater than 4 feet) was encountered at Site 17 (WHF-17-2) and may extend over the entire site. The clay layer becomes sandy in WHF-17-3 and appears to grade vertically downward from a plastic clay to a sandy clay in WHF-17-1S. Figure 3-4 depicts a possible correlation of clay observed during soil borings for monitoring wells at Site 17 (Appendix C, detailed lithologic descriptions). Sites 1, 2, and 18 did not contain significant clay layers (Figures 3-2 and 3-3). The terminal depths of the borings and monitoring wells in this area were not sufficient to correlate with the clay of the Industrial Area.



WHITING/7560-16/TEC-MEM2/WH-PLAN2.dwg/NP/KP/10/18/94

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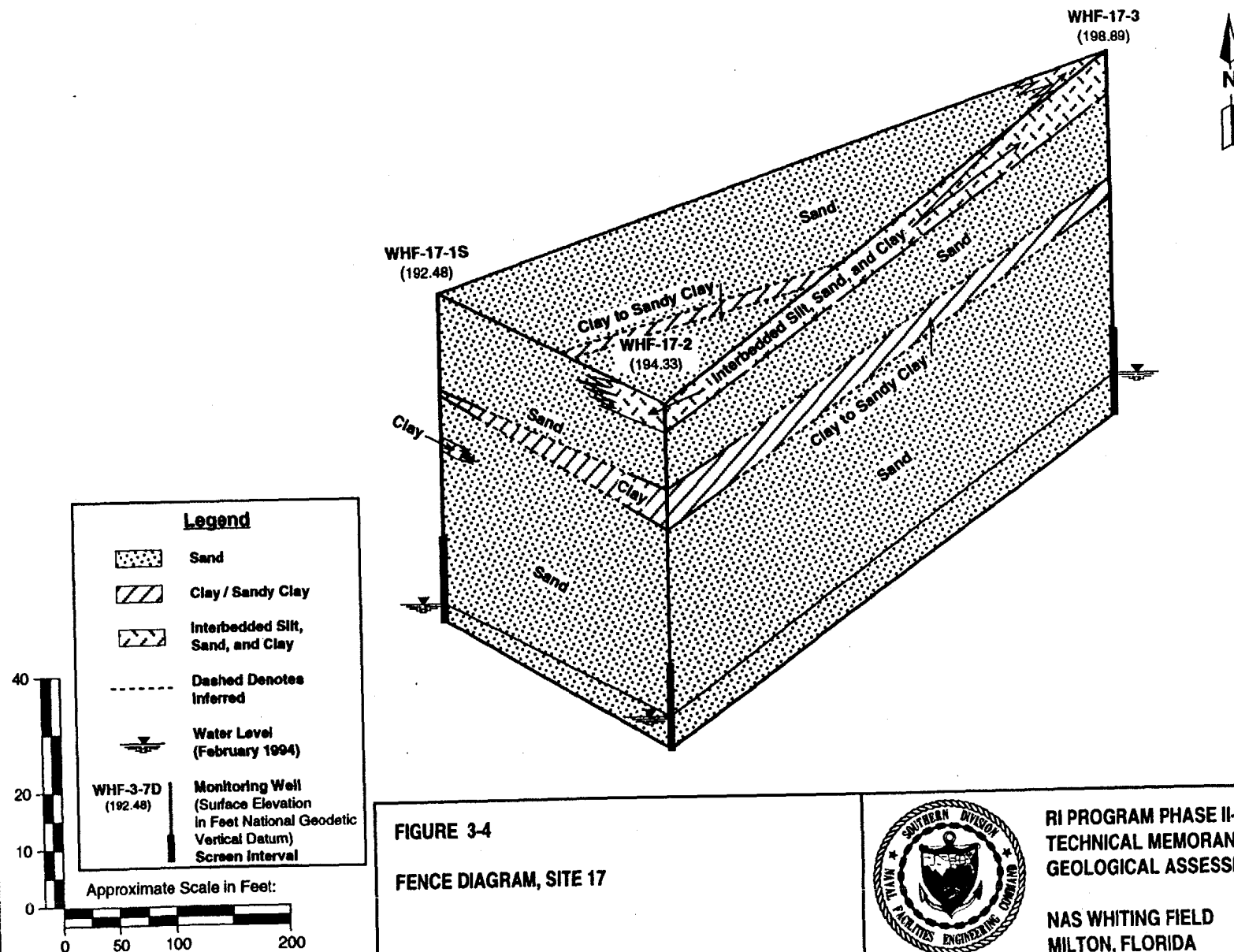
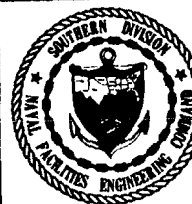


FIGURE 3-4
FENCE DIAGRAM, SITE 17



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3.1.2 Southwest Disposal Area The Southwest Disposal Area encompasses Sites 15 and 16 (Figure 3-5). Data from 20 monitoring wells (Table 2-2 and Appendix C) and 7 PCPT soundings (Table 2-4 and Appendix D) completed during the Phase IIA RI were used to generate cross sections (Figures 3-6, 3-7, and 3-8) and to characterize the subsurface geology of the area.

The most abundant subsurface soil type encountered in the area consisted of poorly graded (fine- to medium-grained) sands displaying various shades of yellow, brown, and grey. Layers of well graded sands, clay, and silt were common to the deep monitoring wells at both sites (Appendix C). The soil from shallow depths (referred to as interbedded sands, silts, and clays on cross sections) tended to be darker in color and contain significant amounts of clay and silt.

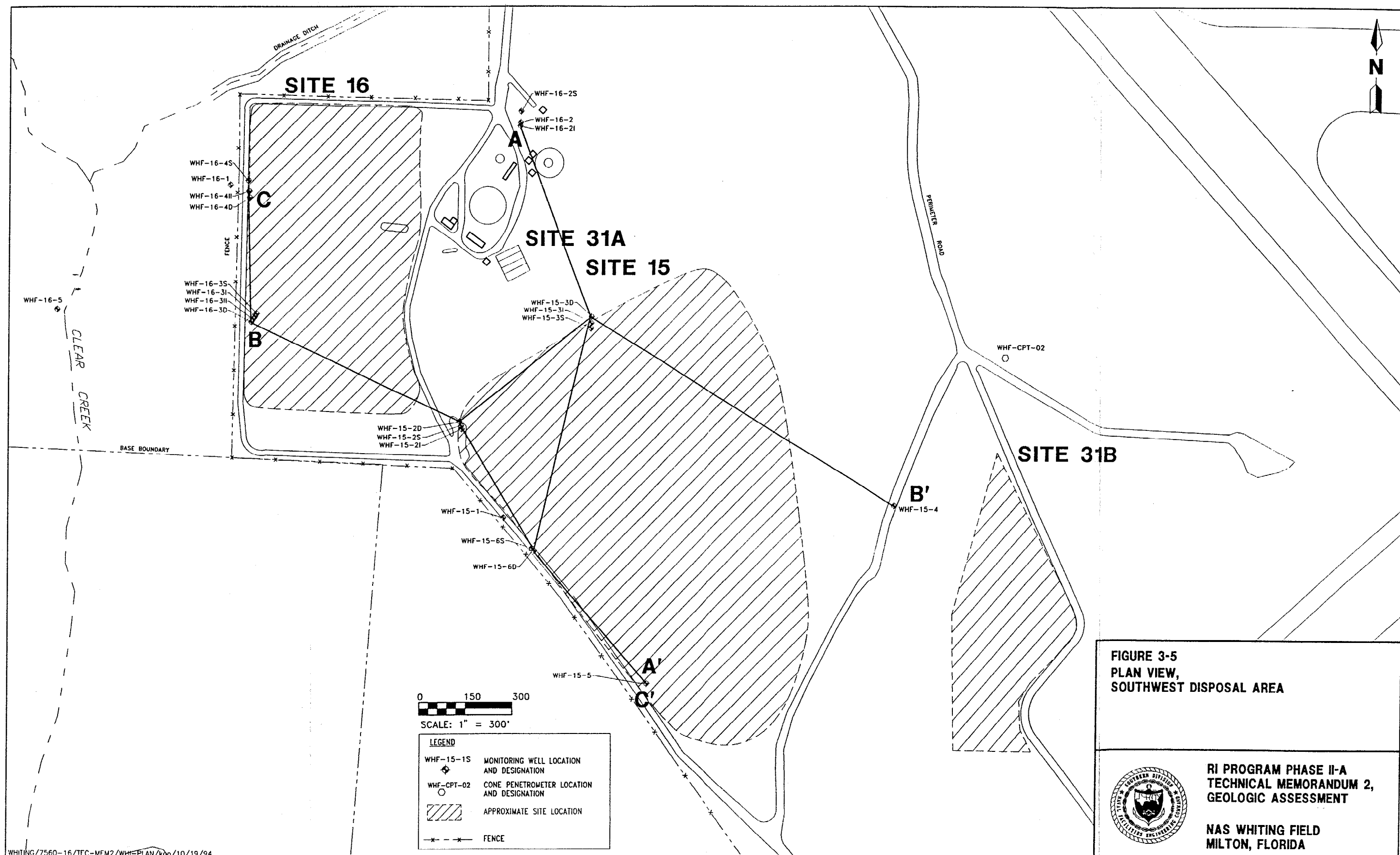
A continuous clay layer is not present in the southwest section of the installation (Figures 3-6, 3-7, and 3-8). A significant clay layer (greater than 3 feet) was encountered at both Sites 15 and 16 (Figures 3-6, 3-7, and 3-8); however, the layer was not present in all the wells indicating it may be discontinuous in the Southwest Disposal Area. In the case of Site 16, the clay layer was discovered beneath the northern part of the landfill (WHF-16-4D) but not in the southern part of the site. Clay was detected at Site 15 in monitoring wells WHF-15-3D and WHF-15-5. The layers were relatively thin and discontinuous. A clay layer exceeding 30 feet in thickness was detected at a depth of 65 feet below NGVD in monitoring well WHF-16-2D. However, this depth is well below the terminal depths of the remaining wells in the area and the wells in the rest of the installation. Therefore, the continuity of this clay layer could not be confirmed.

3.1.3 Southeast Disposal Area The Southeast Disposal Area encompasses Sites 9, 10, 11, 12, 13, and 14 (Figure 3-9). Lithologic data from seven monitoring well borings completed during the Phase IIA RI (Table 2-2), one well boring from the Phase I RI (WHF-9-2), and one Verification Study well (WHF-11-1) were used to generate cross sections (Figures 3-10, 3-11, and 3-12) and to characterize the subsurface geology of the area.

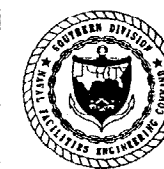
Although Site 31 is located in this area, a subsurface investigation was not performed at the site. A discussion of the site will be presented in Technical Memorandum No. 3, Soils Assessment.

The most abundant subsurface soil types encountered in the area consisted of various shades of yellow, red, and brown silt and sand overlying well graded sands. At Sites 10 and 11 the interbedded sand, silt, and clay layer overlays a layer (15 to 20 feet thick) of silty sand. Stringers of clay and poorly graded sands were common throughout the area (Appendix C).

The subsurface soil encountered at Site 14 (monitoring well WHF-14-2) was predominantly poorly graded sand common to the Southeast Disposal Area (see Appendices A and C). A clay layer was encountered at 48 feet NGVD; however, due to its separation distance and position with respect to the other sites in the area, it was not included in the cross sections. It is uncertain whether the layer is continuous throughout Site 14 and/or the area.



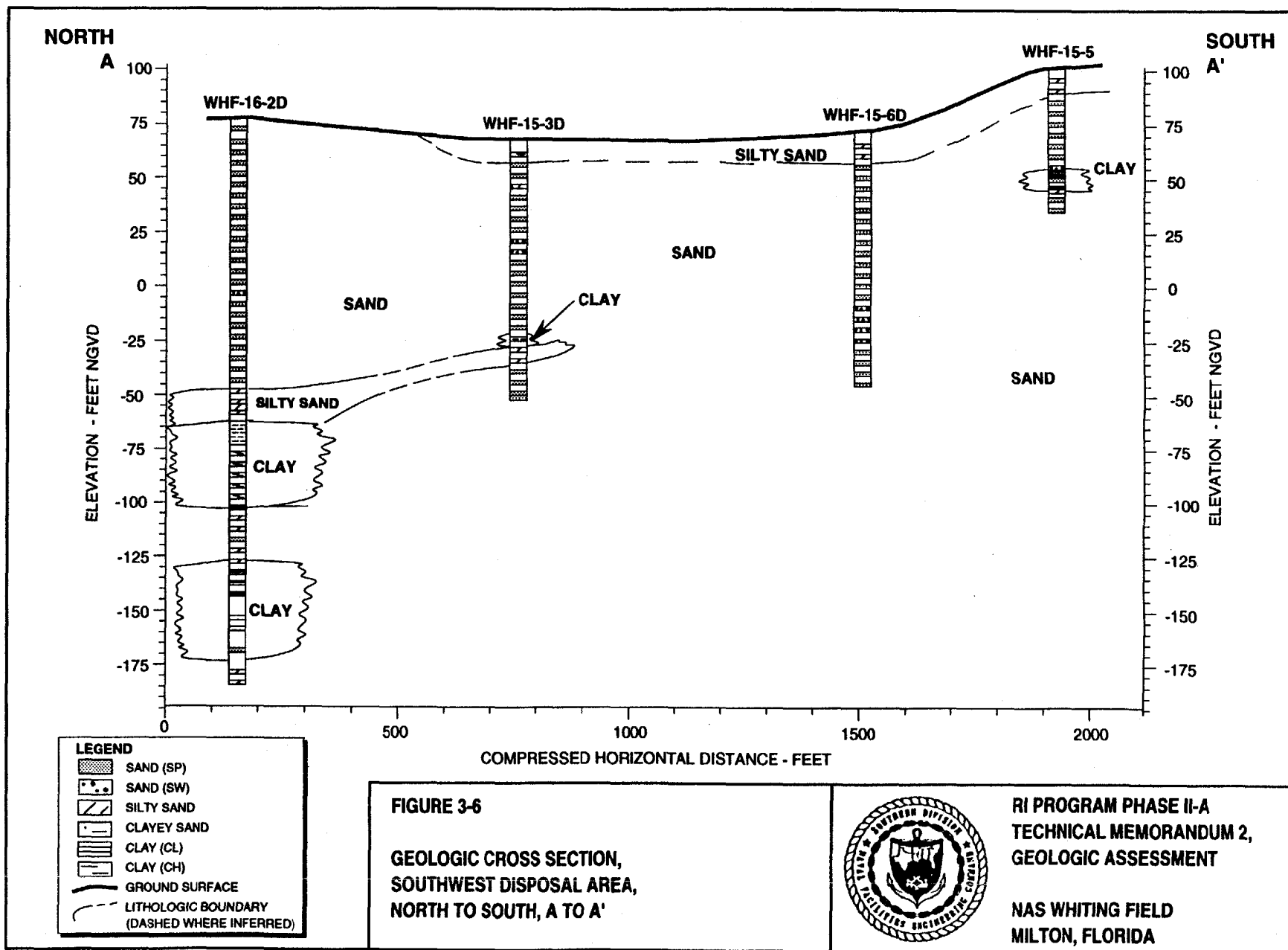
**FIGURE 3-5
PLAN VIEW,
SOUTHWEST DISPOSAL AREA**

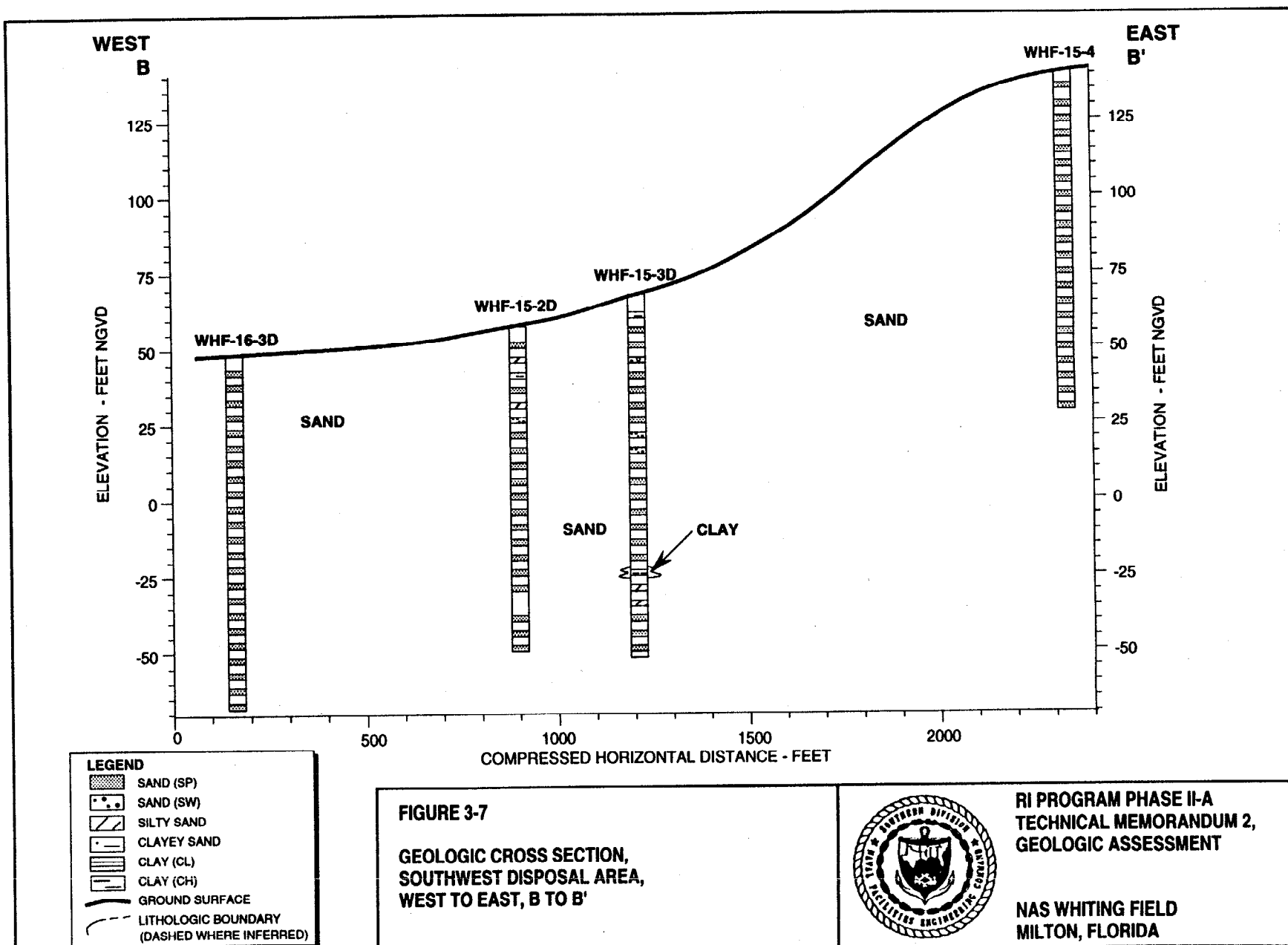


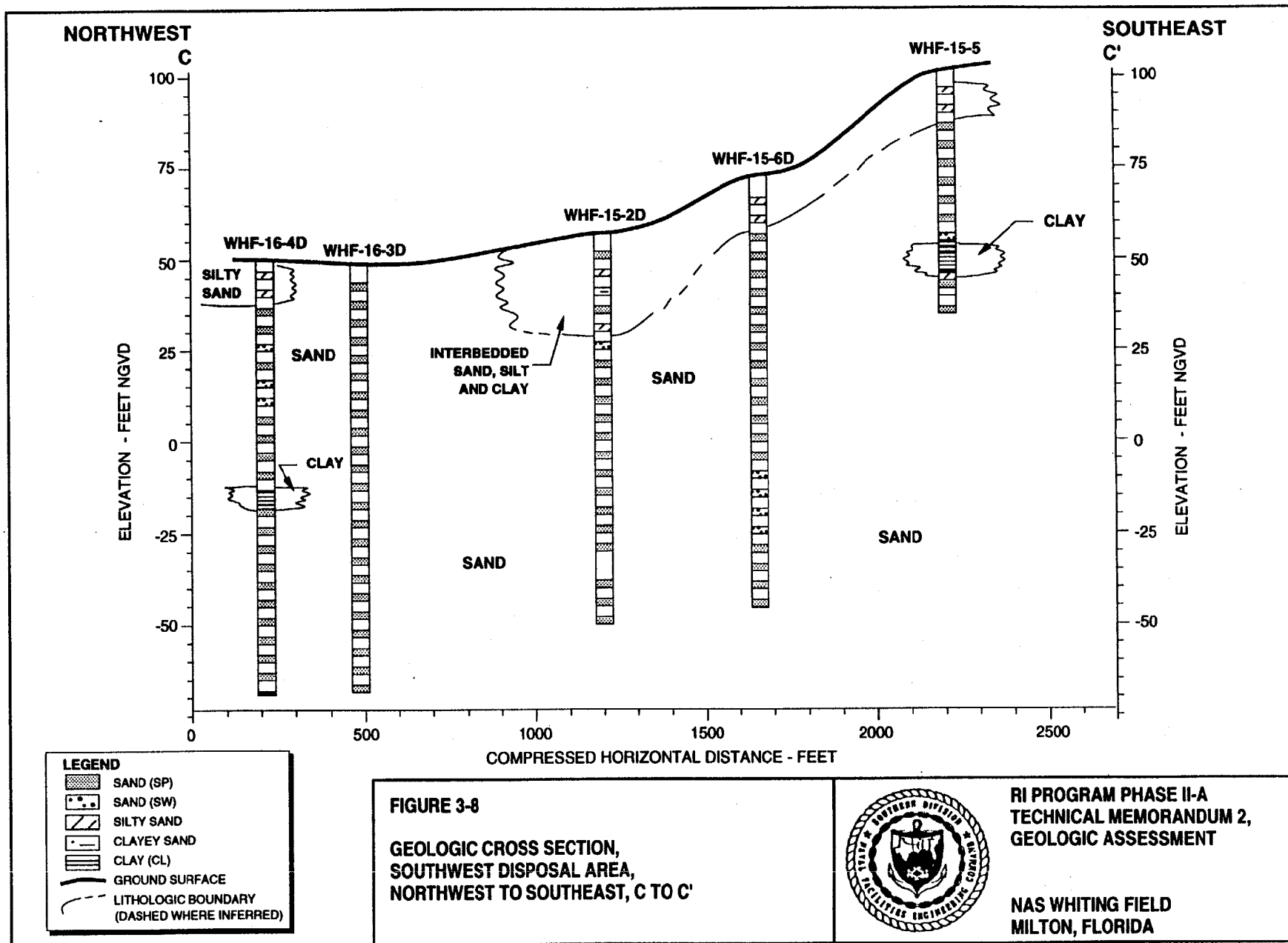
**RI PROGRAM PHASE II-A
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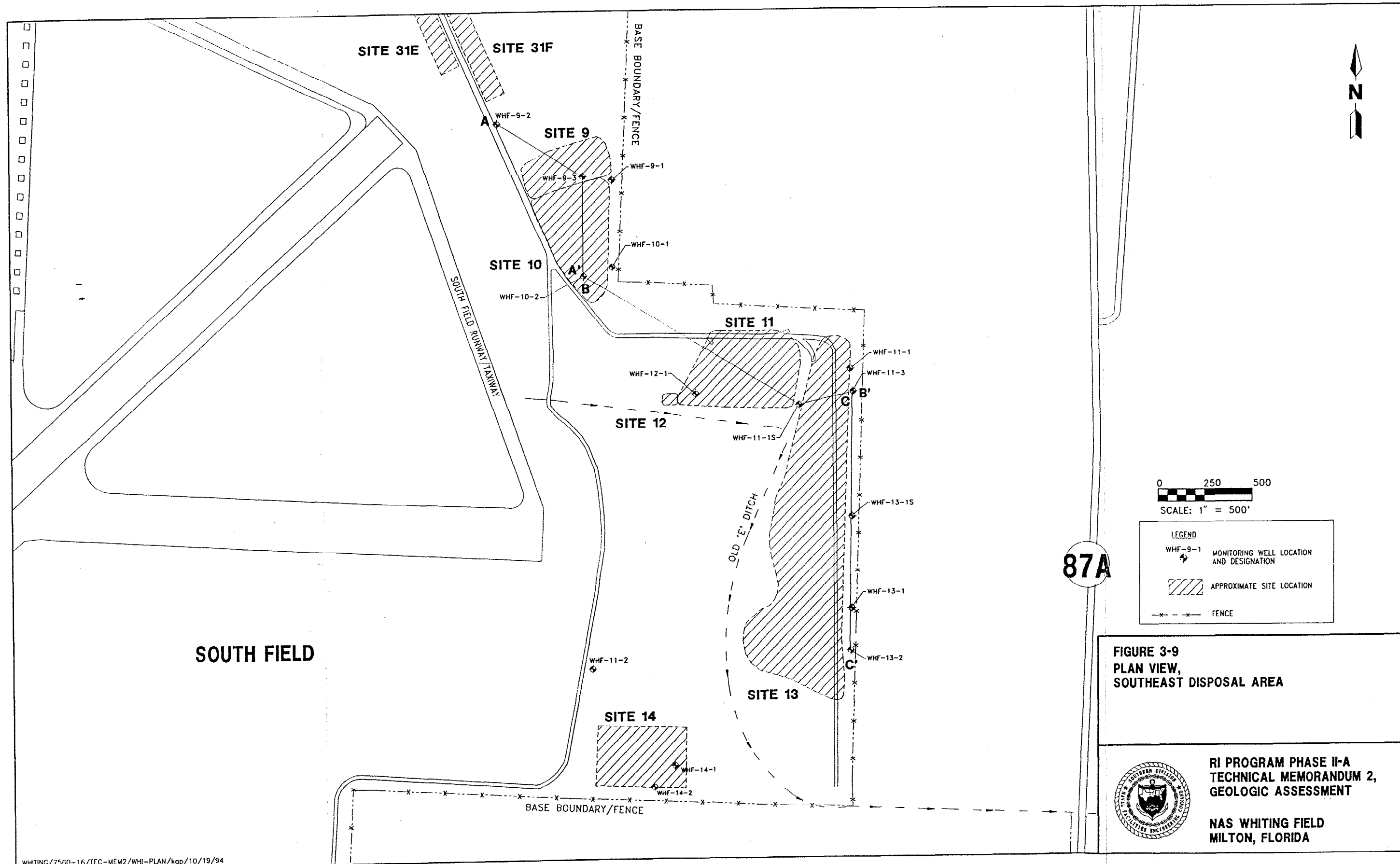
**NAS WHITING FIELD
MILTON, FLORIDA**

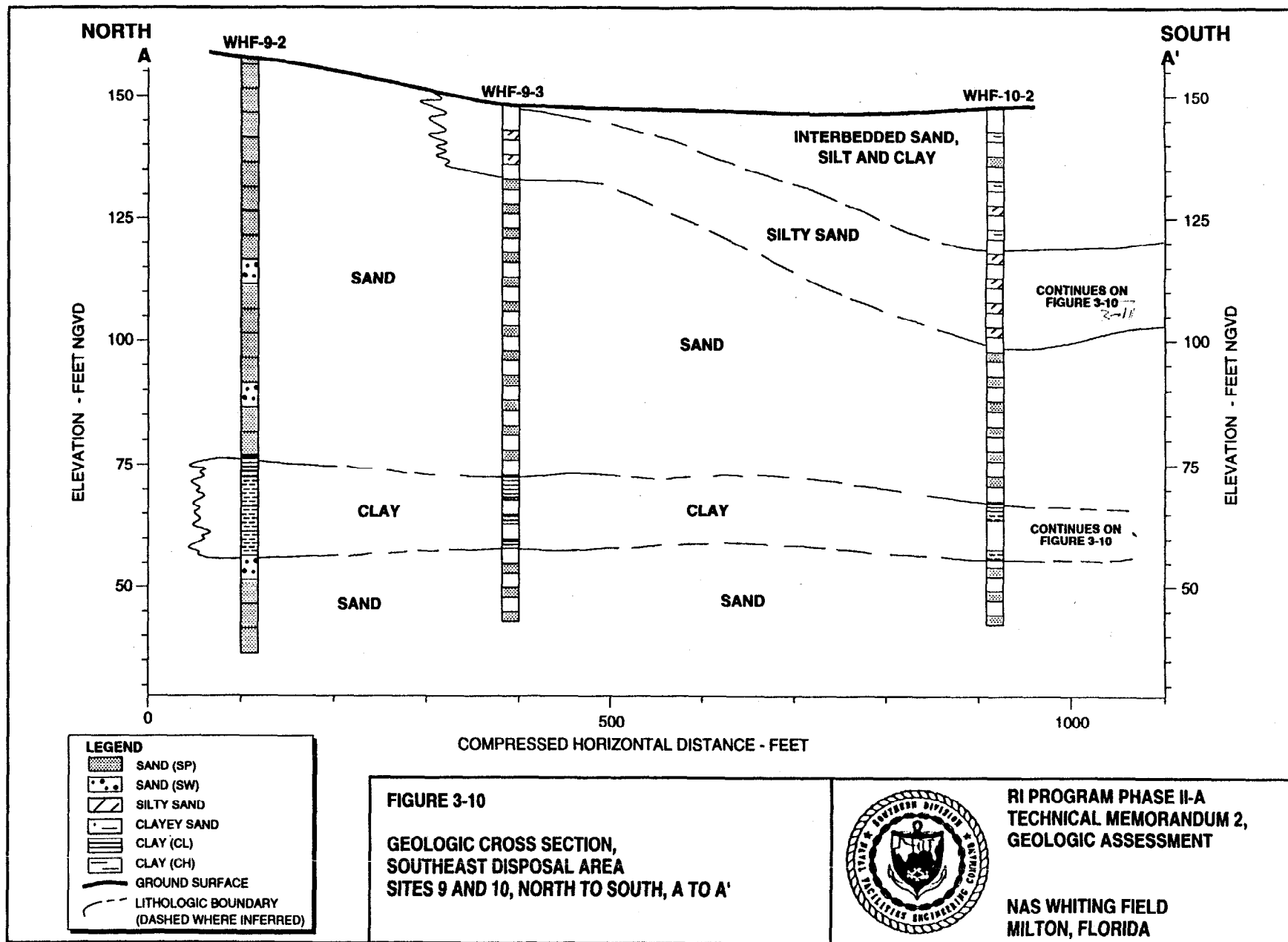
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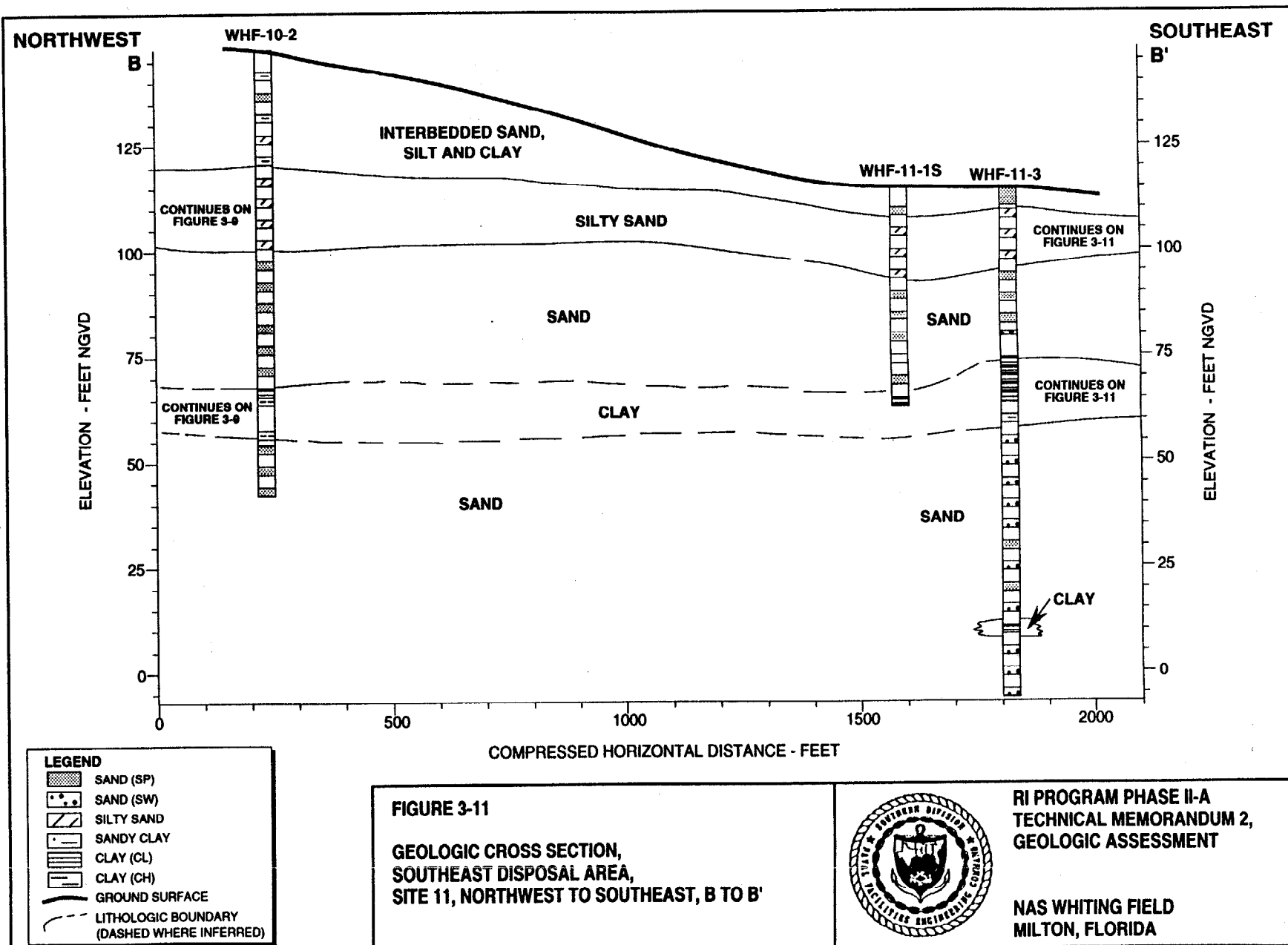


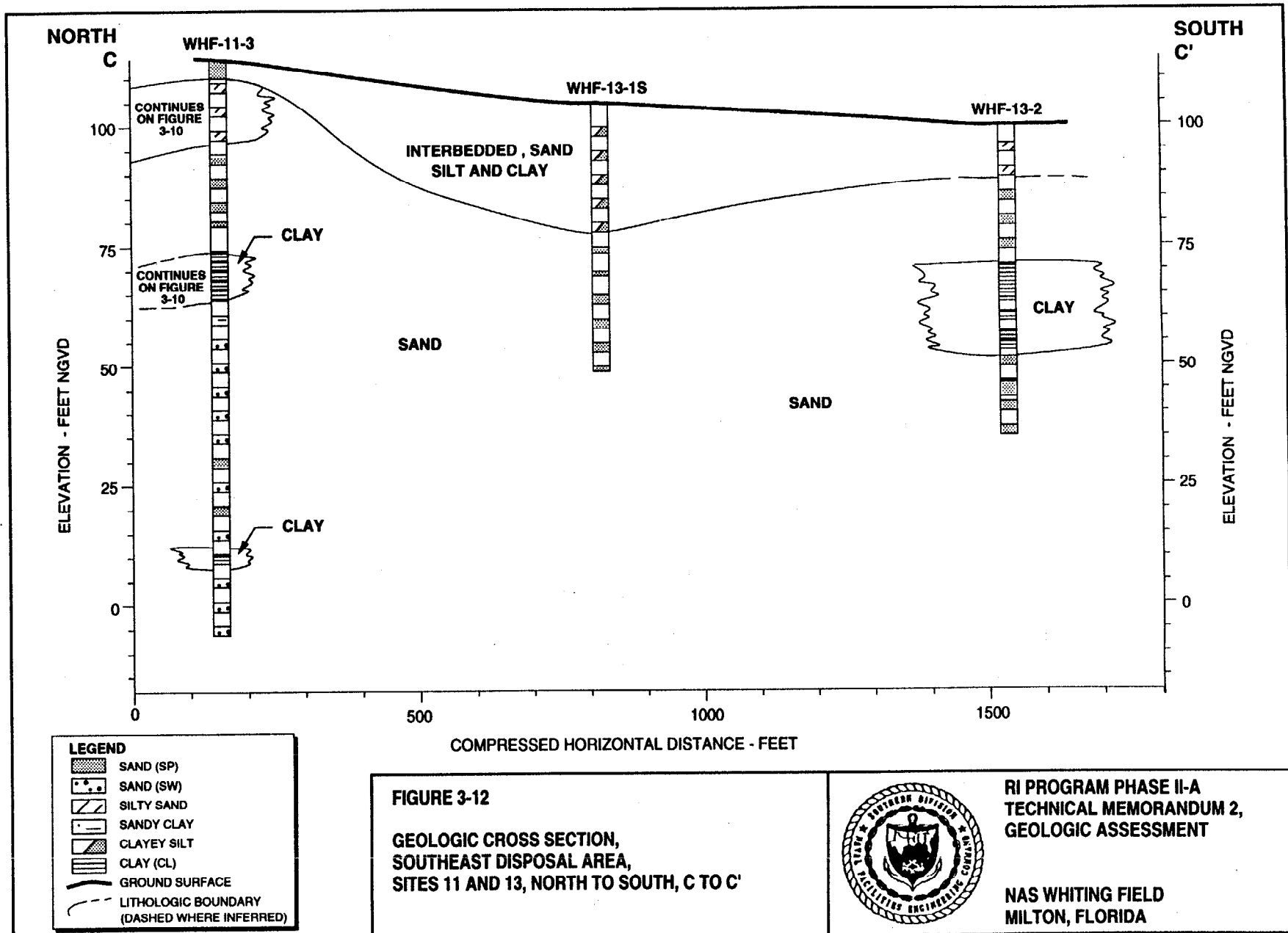












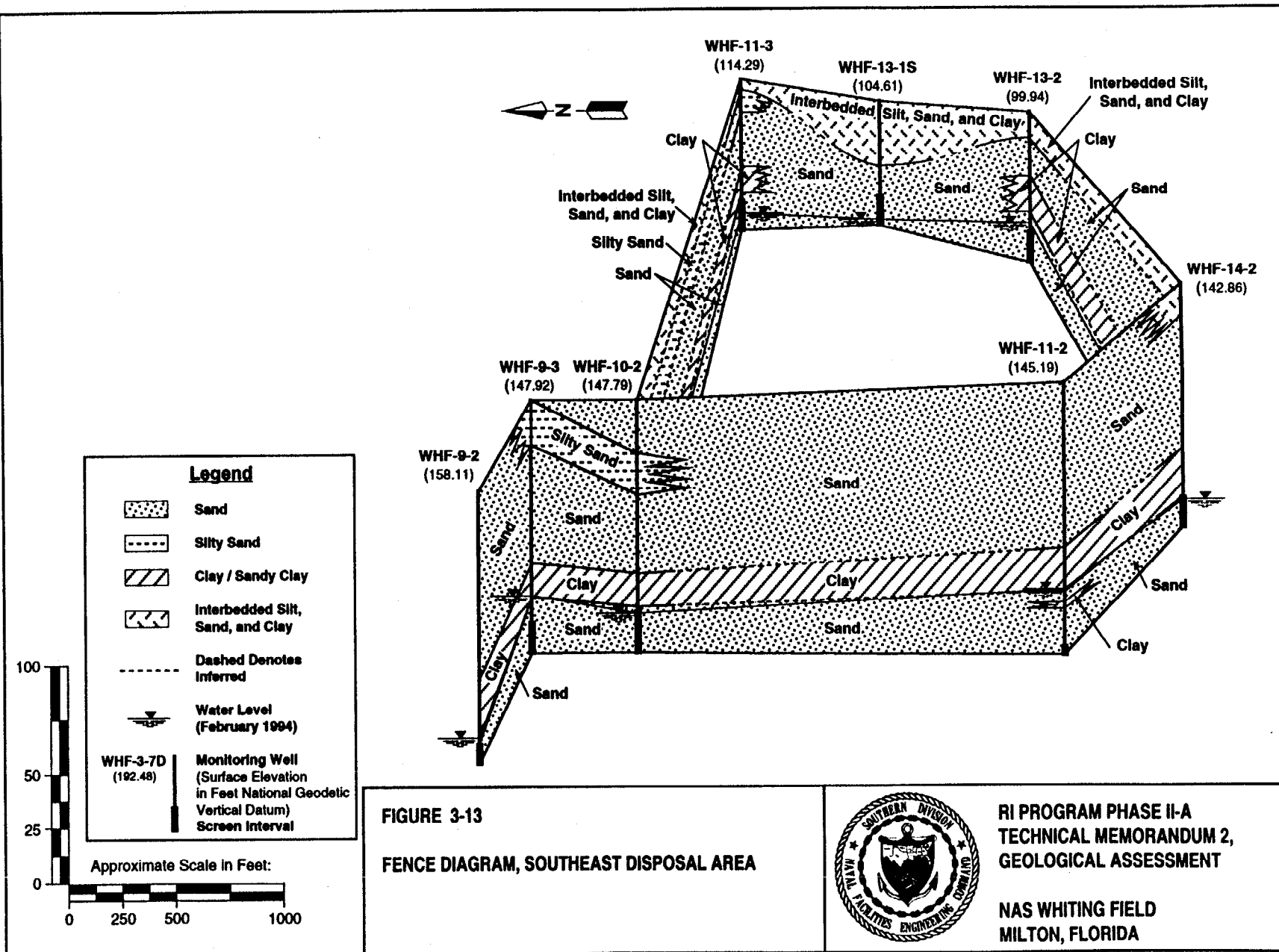
A clay layer of significant thickness (greater than 4 feet) and areal extent may be present in the Southeast Disposal Area as depicted in Figure 3-13. The layer is 15 to 25 feet thick and is located between 75 and 50 feet above NGVD. Clay layers were encountered in all the wells in the area that were set below the depth of 60 feet bls. Monitoring well WHF-11-1S was installed above a clay layer (Figure 3-10), whereas clay appears to be absent in monitoring well WHF-13-1S (Figure 3-11), indicating that the layer is discontinuous at Site 13. The clay layer is also present at Site 14 (monitoring well WHF-14-2) where it appears to attain its maximum reported thickness of 25 feet. The well is located in the southeast corner of the site. The layer was also detected at the same depth in the Phase I monitoring well (WHF-11-2) located to the northwest. Considering the thickness of the clay in the area and the relatively small size of Site 14, the layer may underlie the entire site. The wells at Sites 13 and 14 are separated by over 1,100 feet; therefore, the layer is inferred between the sites. The layer is inferred over 500 feet between monitoring wells at Sites 9 and 10 and 1,300 feet between monitoring wells at Sites 10 and 11. Given the large distances between the monitoring wells, the layer may be discontinuous in these areas as well.

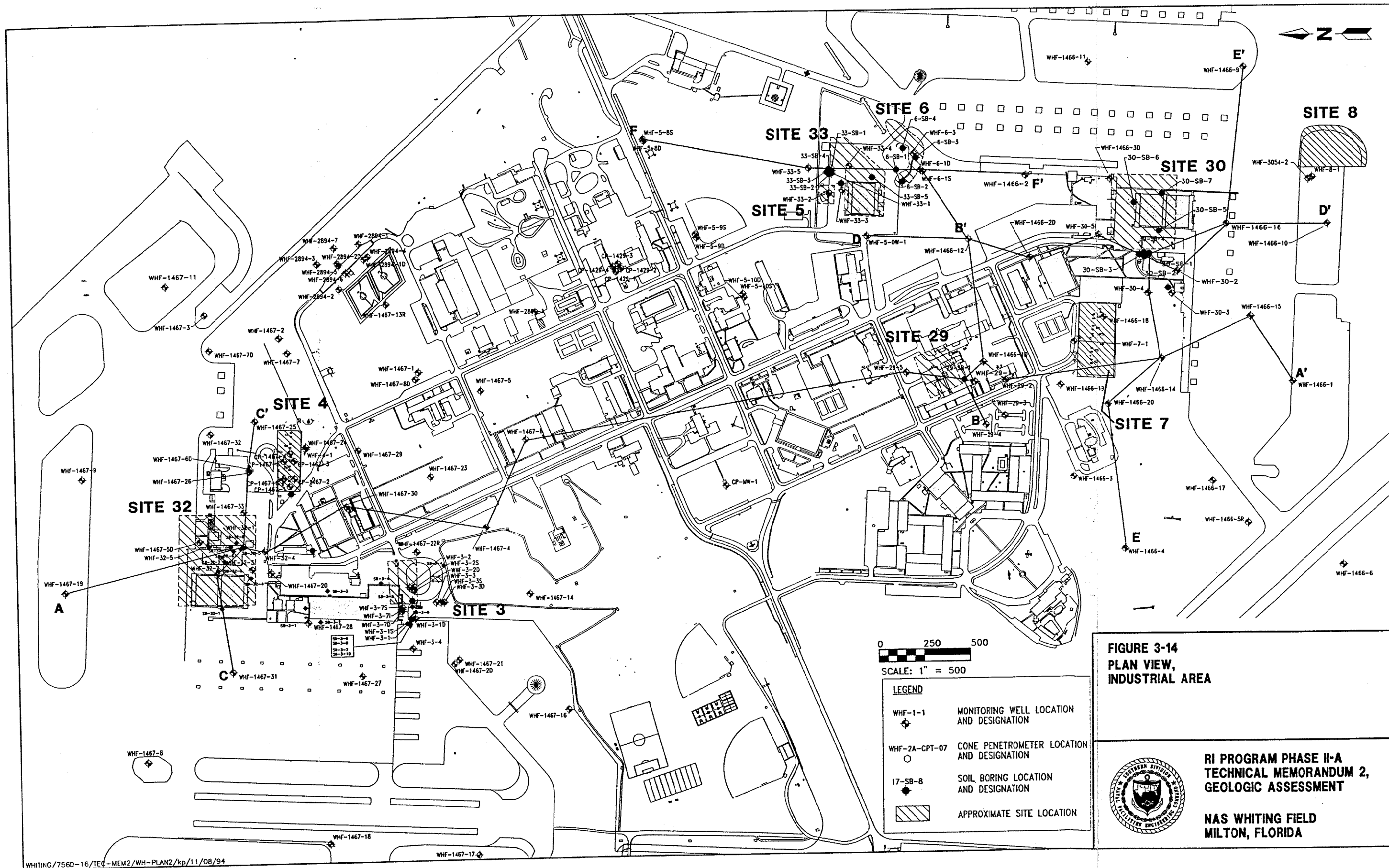
3.1.4 The Industrial Area The Industrial Area is the largest and most studied region of the installation (Figure 3-14). The area encompasses Sites 3, 32, 5, 6, 33, 30, and 29. Data from 39 soil borings completed at Sites 3, 32, 6, 33, 30, and 29 (Table 2-1); lithologic descriptions from 37 monitoring wells (Tables 2-2); and 7 PCPT soundings completed during the Phase II-A RI were used to generate cross sections (Figures 3-15 through 3-20) and to characterize the subsurface geology of the area. Additionally, lithologic descriptions from 61 monitoring well borings completed under the UST program (Appendix E) were reviewed and used to augment the Phase IIA data and to complete the cross sections for the area. The UST monitoring wells were originally installed to investigate UST sites 1467 and 1466, respectively (Sites 4 and 7, respectively).

The most abundant soil type encountered in the area consists of light colored, poorly graded (fine- to medium-grained) sands containing frequent layers of clay and silty sand (Appendices B and C). The soil from shallow depths (0 to 30 feet) tended to be darker (various shades of reddish brown) in color and contain significant amounts of clay and silt. The shallow strata are referred to as interbedded sand, silt, and clay on the cross sections. Well graded sand layers containing coarse-grained sands are common throughout the Industrial Area (Figures 3-16 and 3-20).

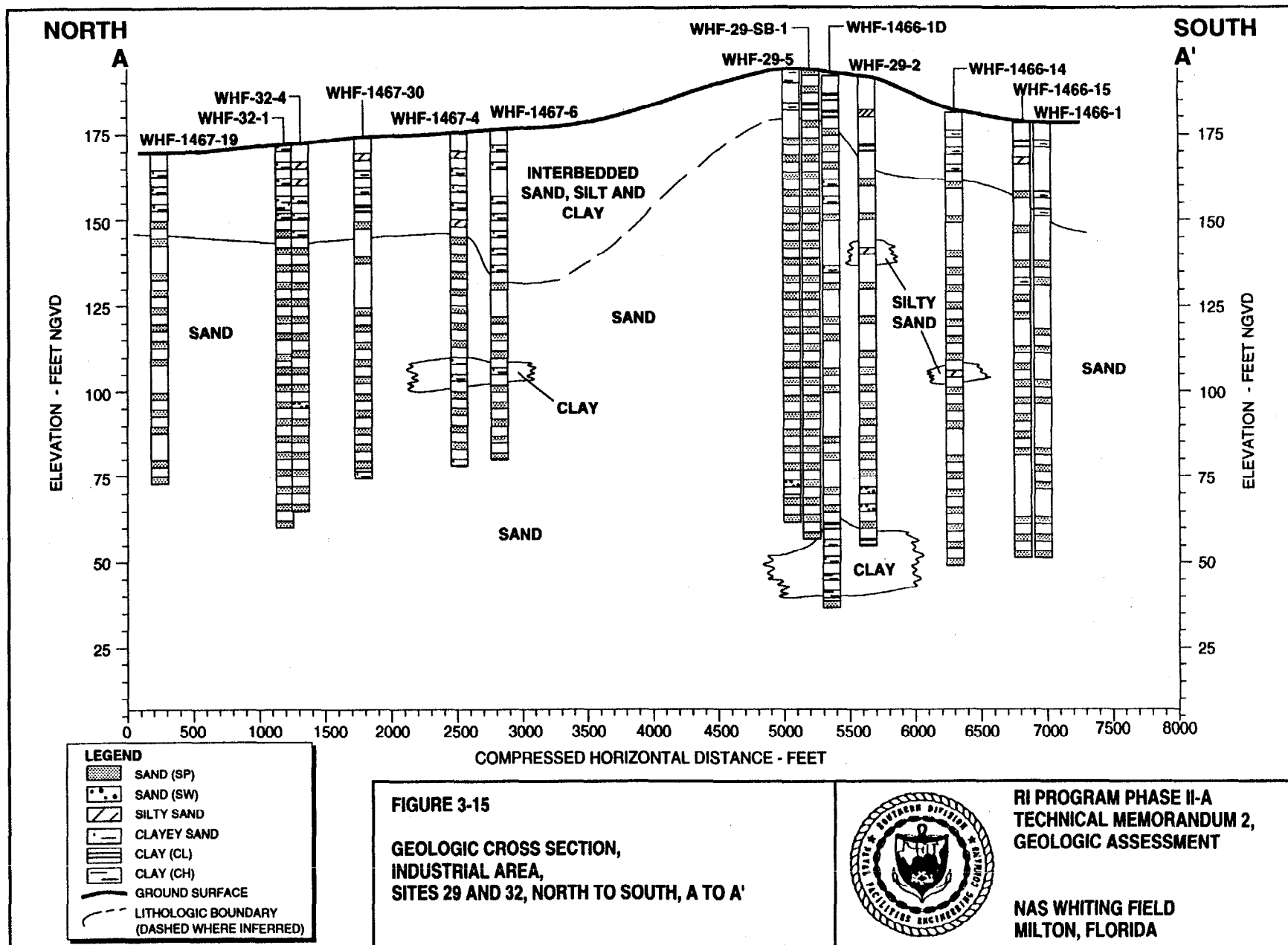
A continuous clay layer does not underlie the entire Industrial Area (Figures 3-19 and 3-20). However, clay layers of significant thicknesses (greater than 4 feet) were encountered at Sites 3, 5, 6, and 30. Although a clay layer may be significant at individual sites, none of the layers were determined to be continuous throughout the entire Industrial Area (Figures 3-15 through 3-19).

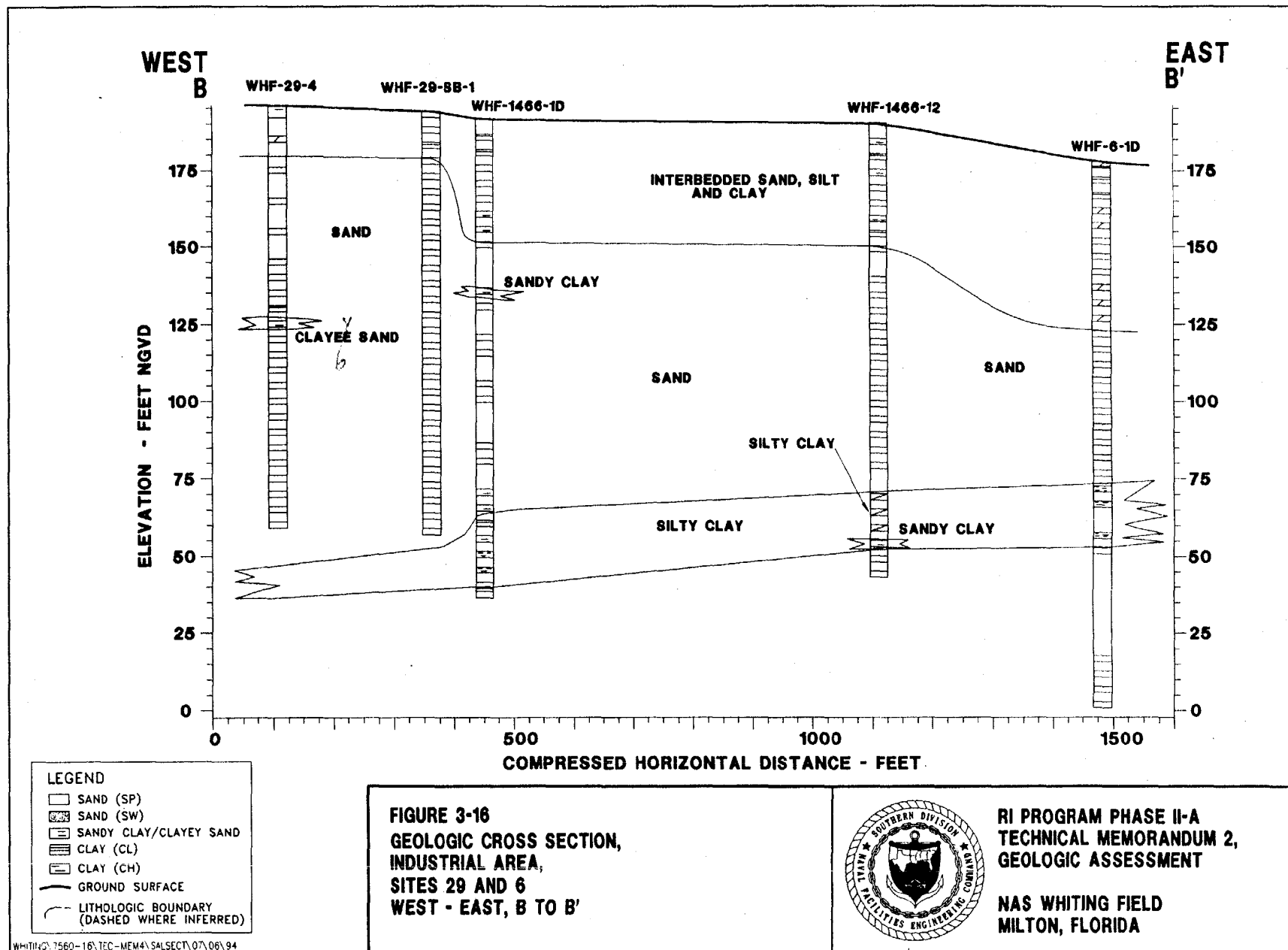
At Site 3, a single clay layer ranging in thickness from 12 to 15 feet (located between 55 to 75 feet above NGVD) was identified. The clay layer is depicted in two cross sections located in Section 3.2 (Installation-Wide Findings) and a fence diagram (Figure 3-21). The clay layer was identified in lithologic descriptions for monitoring wells WHF-3-7D and WHF-3-3D in the north to south direction and in descriptions for WHF-3-4 and WHF-3-1D in the east to west direction.

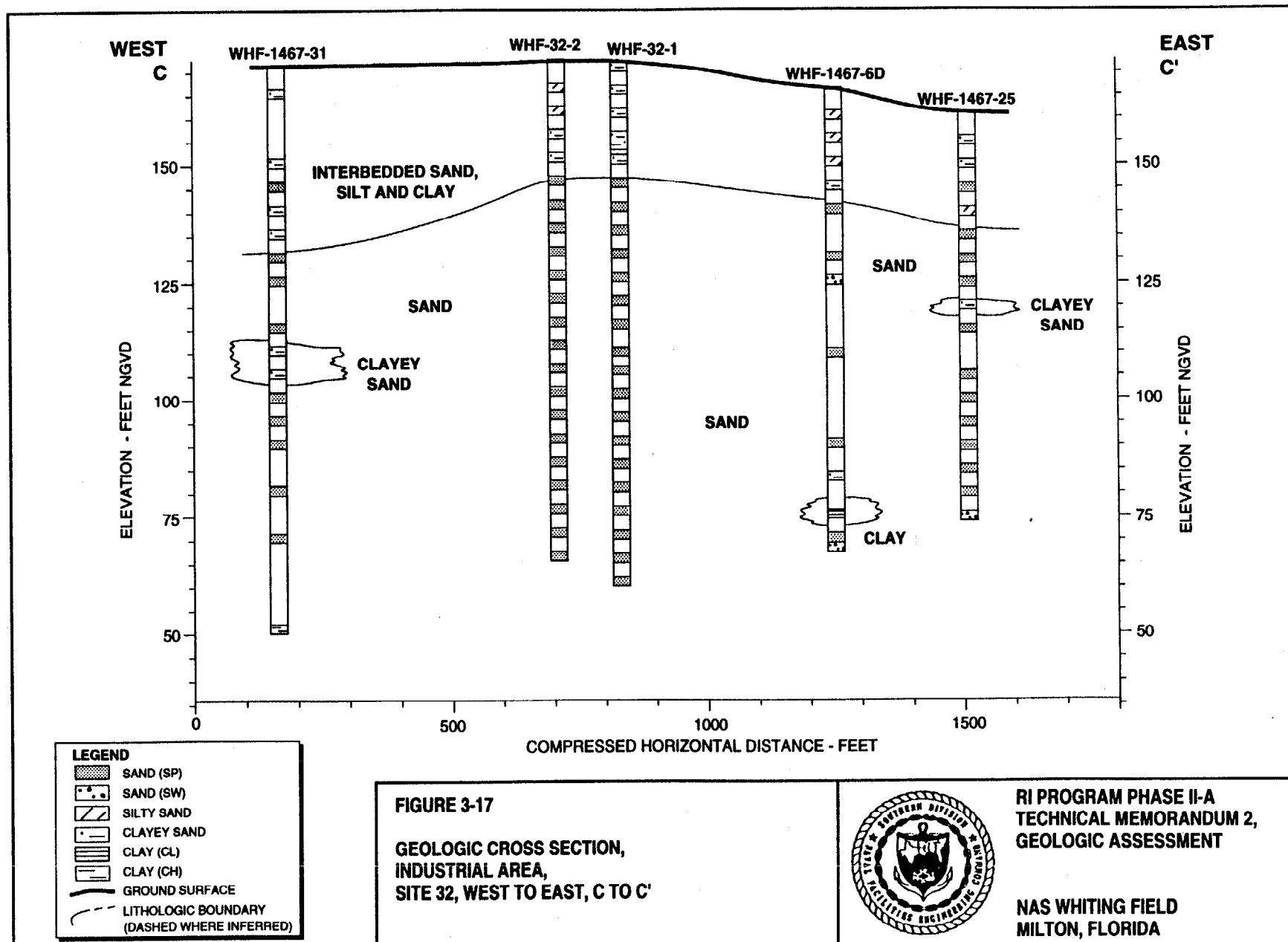


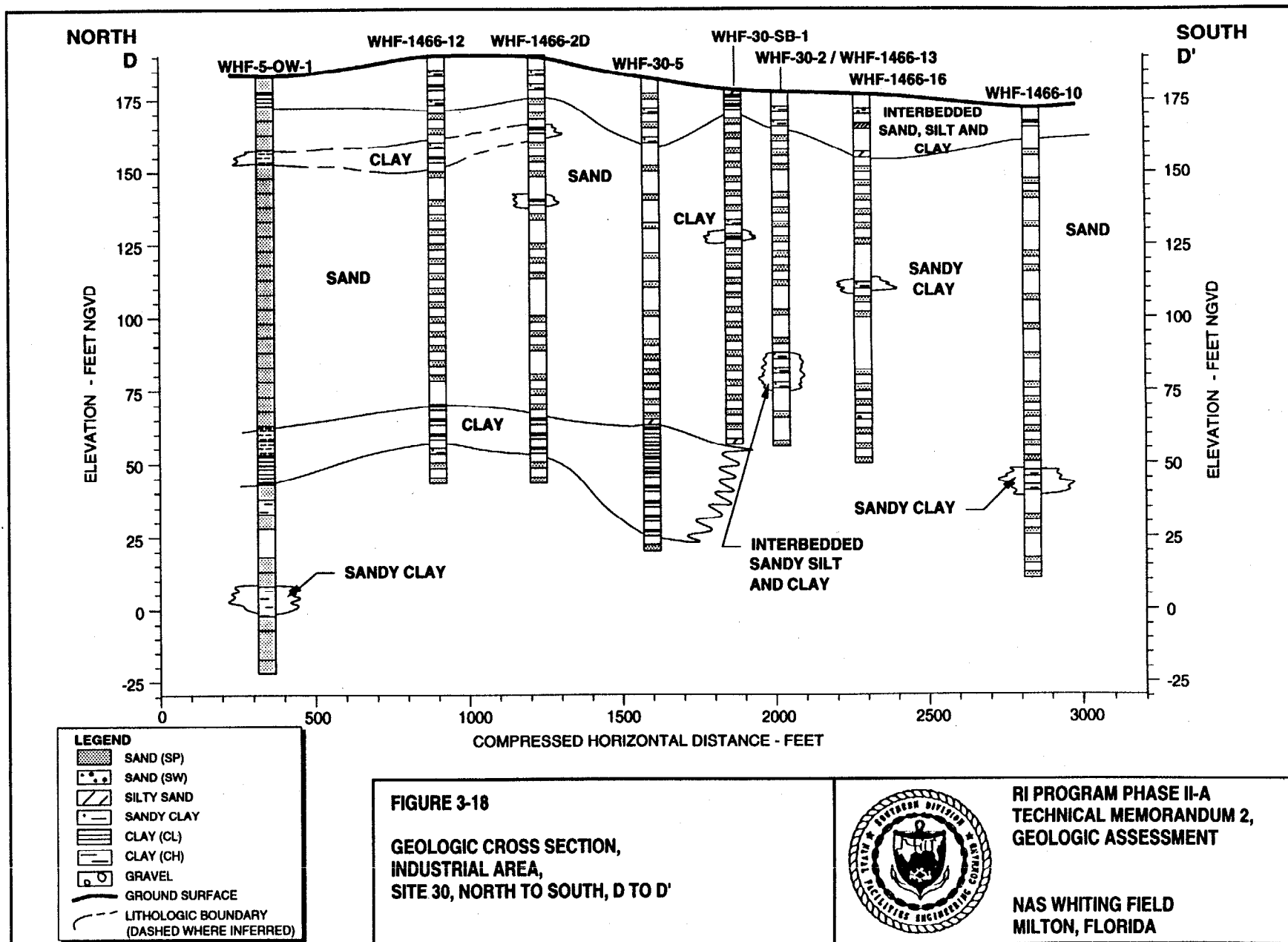


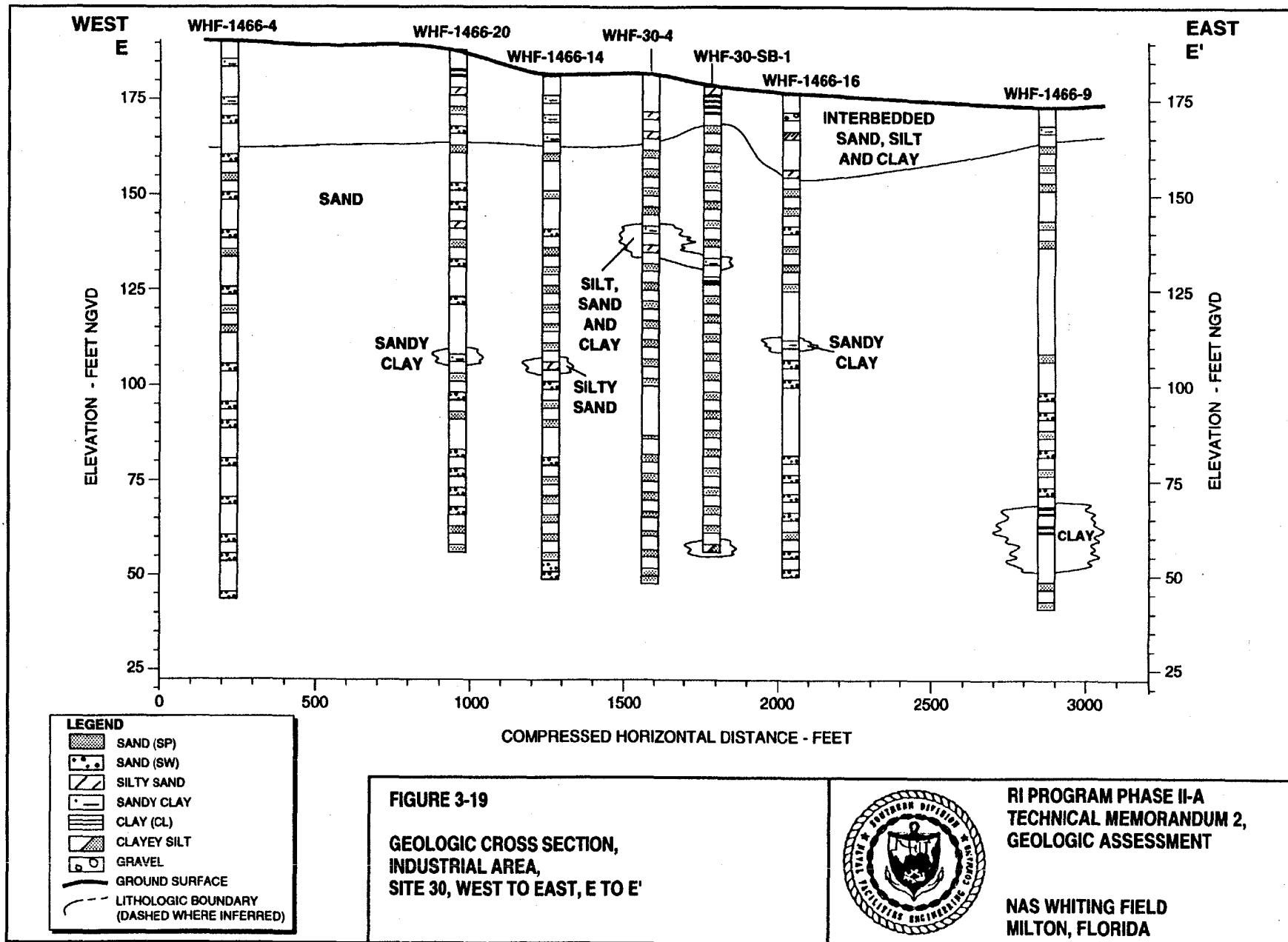
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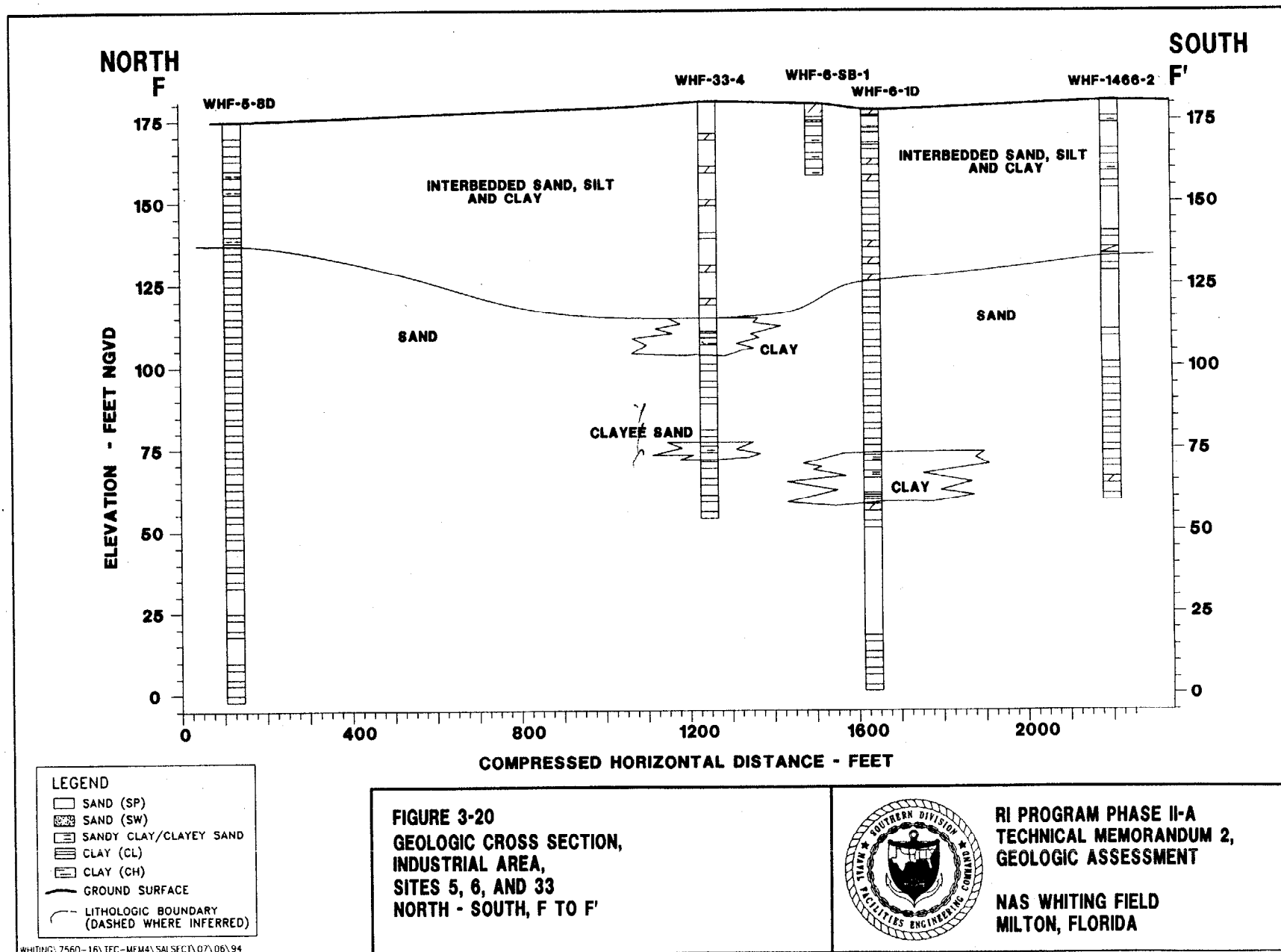


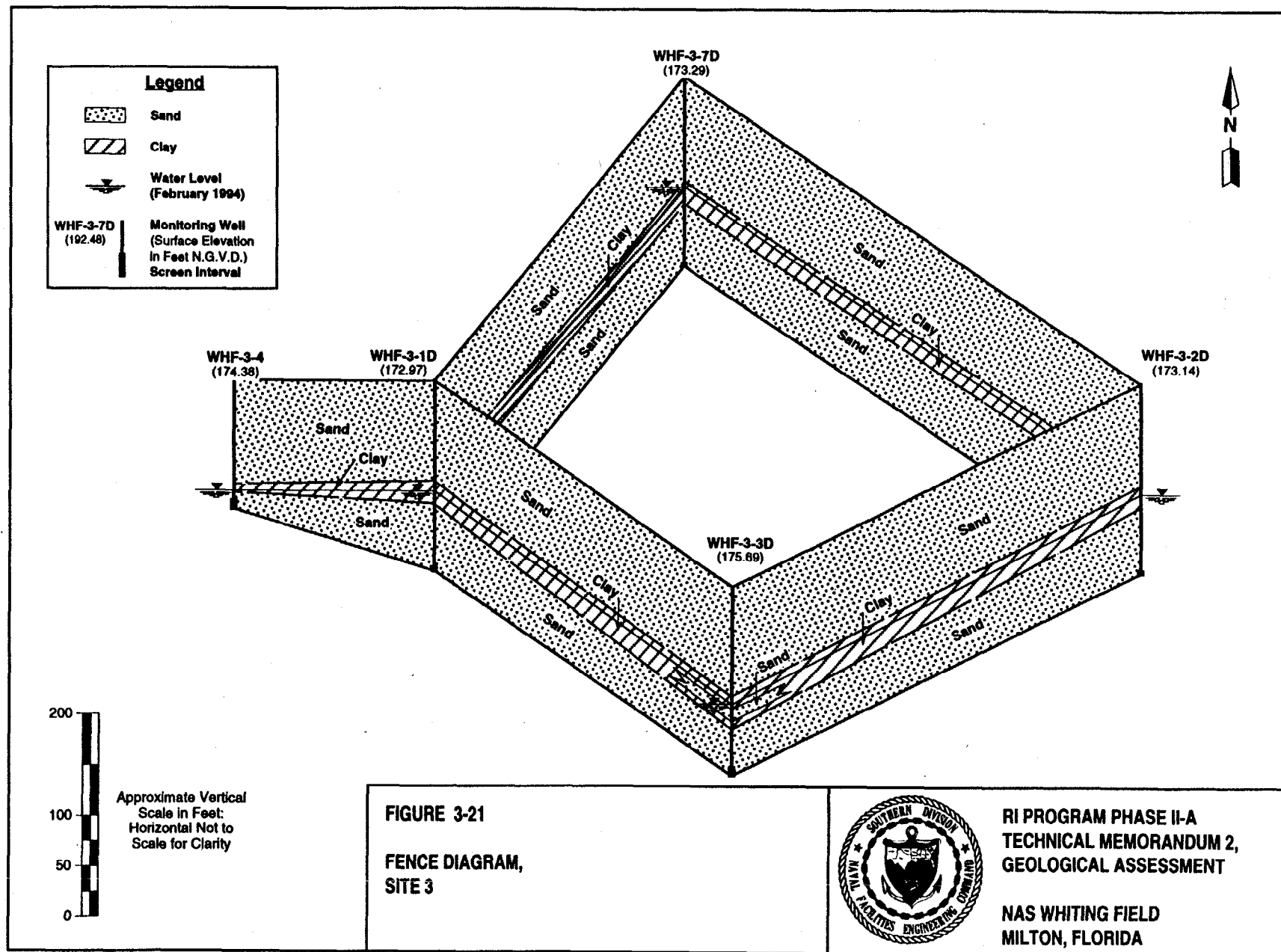












The lithologic descriptions for monitoring well WHF-3-2D indicate that clayey sand is present within the same depth range as the clay layer in the other wells. This may indicate that the layer is discontinuous to the east of the site. The clay at Site 3 is believed to be part of a larger layer consisting of interbedded sand, silt, and clay that appears to extend farther east from the site.

Based on data from UST wells located west of Sites 3 and 32 (Figure 3-14), the layer is believed to be absent in this area.

The subsurface lithology in the vicinity of Sites 7 and 30 is depicted in Figures 3-15, 3-18, and 3-19. All reported clay layers in the immediate vicinity appear to be discontinuous. However, because of the lack of soil borings and monitoring wells in a direction southwest of Site 30, lithologic data are limited and the continuity of the layer can not be confirmed. South of Sites 7 and 30, it is uncertain whether the clay is present or absent below terminal depths of the wells (Figure 3-14, Appendix E).

In the vicinity of Site 29, clay was detected in UST well WHF-1466D and Phase IIA monitoring well WHF-29-2. It is uncertain whether the layer is present or absent below the other Phase IIA wells at Site 29 (Figure 3-16).

The clay layer present in the vicinity of Sites 5, 6, and 33 (Midfield Maintenance Hangar Area) appears to contain discontinuities similar to those at Sites 3 and 30. A thick layer of clay, between 55 and 70 feet above NGVD, underlies Site 6. However, the same depth range in Site 33 monitoring wells contains sand, silt, and clay mixtures. The upgradient well for Site 5 (WHF-5-8D) contains sandy clay at the same depth range (Figure 3-20). The remaining upgradient wells (WHF-5-9D and WHF-5-10D) contain approximately 15 feet of clay located between 69 and 52 feet above NGVD. The layer was also identified in WHF-5-OW-1, between 45 and 65 feet above NGVD. Although the upgradient wells are over 700 feet north and west of Site 5, clay in the three Site 5 wells and at Site 6 indicates that the layer may underlie the Midfield Maintenance Hangar Building and the western part of Site 5. However, the lithologic descriptions of the Site 33 wells indicate that the clay is thin and/or discontinuous in the areas north and east of the hangar. The clay at Site 6 may extend westward towards Site 29; however, it grades into silty clay between the site and monitoring well WHF-1466-12 (Figure 3-16). There are no borings east of the area; therefore, the presence of clay in that area is uncertain. Although the component of clay was identified at similar depths in lithologic descriptions of many wells in the Midfield Maintenance Hangar Area, the wide variation of layer thickness and percent clay indicates that the layer may be discontinuous.

3.2 INSTALLATION-WIDE FINDINGS. The type and stratification of the soil encountered at the installation are consistent with the descriptions of the Citronelle Formation (Section 1.5). The presence of numerous clay layers and rapid facies changes also suggest a very low to moderately energetic depositional environment as described in Section 1.5. A plan view map for the installation is provided in Figure 3-22. Figures 3-23 and 3-24 present geologic cross sections for the facility as a whole.

3.2.1 Installation Lithology The subsurface soil at the NAS Whiting Field consists of sand, silt, clay, and a variety of mixtures of the three soil matrices (as defined by the Unified Soil Classification System [USCS]). A

FIGURE 3-23

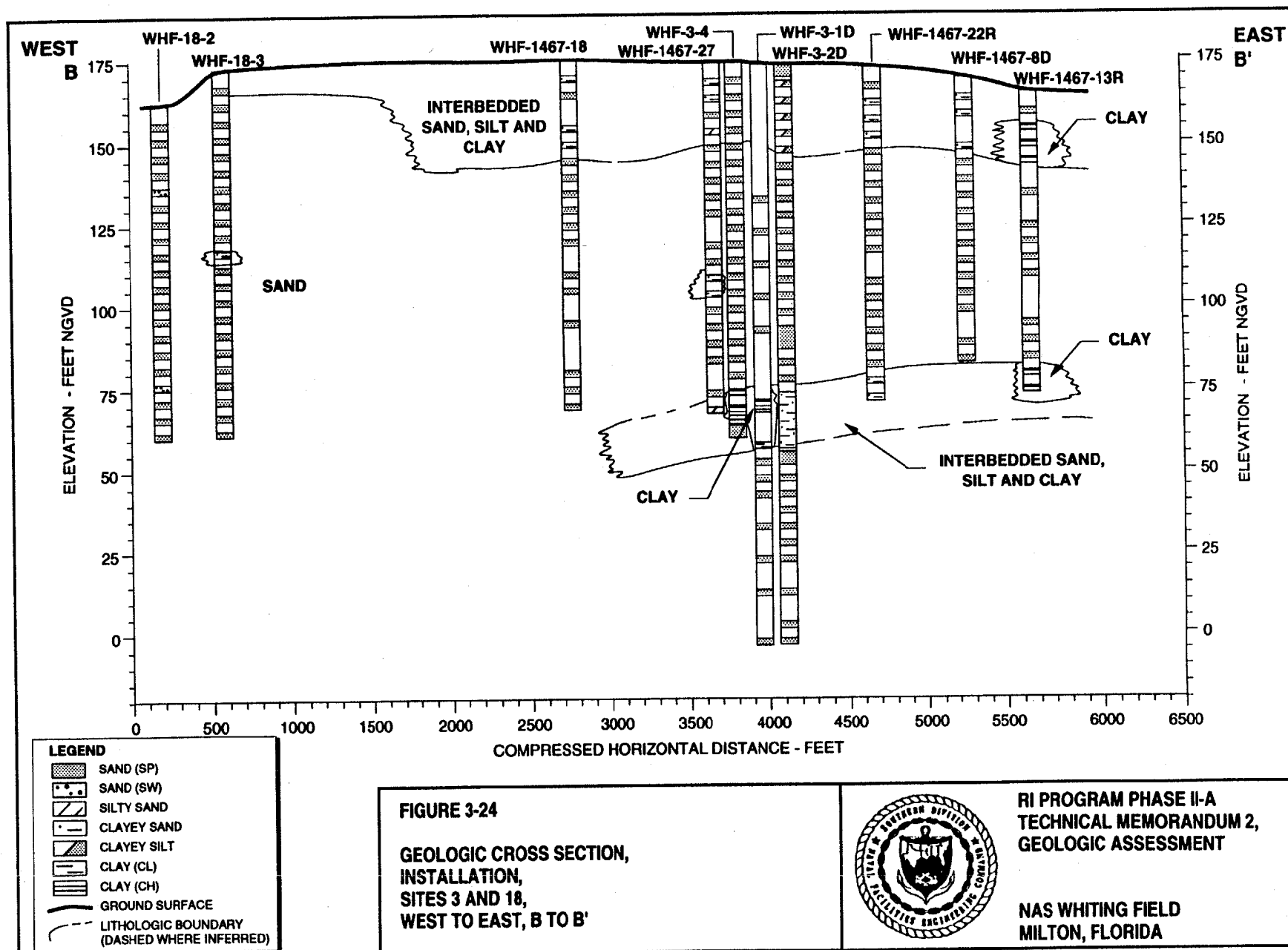
GEOLOGIC CROSS SECTION, INSTALLATION, SITE 3, NORTH TO SOUTH, A TO A'

LEGEND

- SAND (SP)
- SAND (SW)
- SILTY SAND
- CLAY (CL)
- CLAY (CH)
- GROUND SURFACE
- LITHOLOGIC BOUNDARY (DASHED WHERE INFERRED)

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generalized stratigraphic column for the deposits from the installation would include 0 to 30 feet of interbedded sand, silt, and clay overlying massive sand units containing clay and silt lenses. The two strata are best differentiated by the distribution and percentage of silt and clay present in the soil matrix. The percentage of silt and clay in the interbedded sand, silt, and clay layer is generally an order of magnitude greater than the sand layer it overlays (determined by visual inspection of split-spoon samples). Field estimates of the silt and clay content of this strata typically ranged from 35 to 50 percent. The silt and clay portion of the soil matrix was more evenly distributed throughout the shallower strata. Subsequently, the shallow soil layers were most commonly classified as silty or clayey sand (Appendices B and C).

The soil underlying the shallow strata consisted of low chroma (white and other light colors) fine- to medium-grained sand. The sand was commonly described as poorly graded containing a much lower percentage of silt and clay. The silt and clay present in the soil was dispersed along thin lenses of silty sand, clayey sand, clay, or other grain size mixtures (Figures 3-2, 3-3, and 3-6).

Gravel layers are present in the subsurface; however, their occurrence is much less frequent and very localized. As suggested in Section 1.5, the locations of these gravel lenses most likely coincide with the highest energy paleo-depositional environments such as a swift stream or river channel. Sand deposits are indicative of slower moving streams and rivers, whereas the silts and clays suggest the low energy environments of shallow pools, ponds, and floodplains.

A great variety of colors were reported in the soil descriptions from borings at the installation. The deposits exhibited various shades of red brown, tan, grey, white, yellow, orange, and yellow brown. Purple, yellow, and orange (high chroma) were often observed in thin lenses and mottles. In sandy soils, mottling of this type is often indicative of the zone most affected by groundwater fluctuations (Seereeram, 1993).

There was an observable color change between the shallow and deep strata. The interbedded sand, silt, and clay layer was considerably darker (red brown, dark yellow brown, etc.). The deeper sand layer was typically white or very light shades of the high chroma colors.

3.2.2 Installation-Wide Confining Layers A variety of clay layers was detected throughout the installation. However, no single clay layer within the Pleistocene deposits is believed to underlay the entire installation. Significant clay layers were detected at 11 of the Phase IIA RI sites (Sites 3, 5, 6, 9, 10, 11, 13, 14, 15, 16, and 17). Clay layers were considered to be significant based on their thickness and/or areal size. A laterally extensive clay layer is one that could be confidently mapped throughout an individual site or between multiple sites (Sites 9, 10, and 11; Figures 3-10, 3-11, and 3-12). A clay layer greater than 3 feet thick was also considered to be significant. The areal extent of clay layers less than 3 feet thick was typically limited. In most cases, the layer could not be traced between borings at the same site (see cross sections and descriptions throughout Chapter 3.0).

Several sites contained thick layers (greater than 3 feet) of limited areal size (Sites 3, 5, 6, 13, 15, 16, and 17). The layers were detected in one or more borings at a site, but not in every boring at the site. In some cases, the layer would pinch out entirely (Figures 3-8 and 3-12, Sites 15 and 13, respectively);

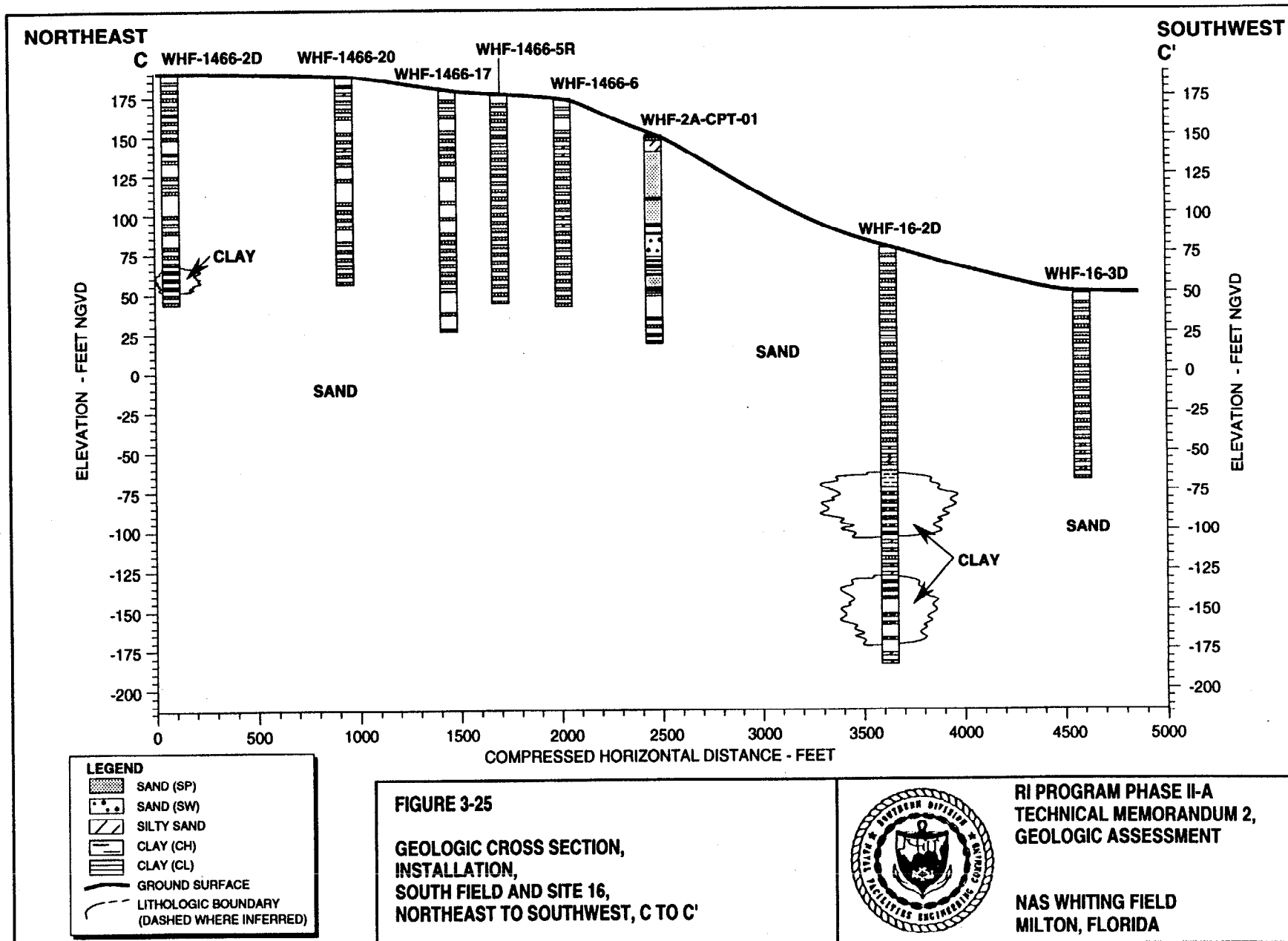
or grade into a silty or sandy clay (Figure 3-24; Site 3 between borings WHF-3-1D and WHF-3-2D). Discontinuous clay layers can be locally important features depending on the areal size. For example, the reported clay layers at Sites 3, 13, and 17 were not detected in every boring completed at the sites; however, the clay layers do underlie large parts of the sites. Conversely, the clay layers at Site 15, although greater than 3 feet thick, are not located at consistent depths and can not be confidently traced between borings. Therefore, they are not believed to be as significant a subsurface feature. Additionally, the clay layer at Sites 5 and 6 may not be as significant a feature due to the size of the suspected discontinuity at Sites 6 and 32. The deeper clay layers recorded in monitoring well log WHF-16-2D are below the terminal depths of all other borings at the installation. Therefore, the areal extent of each of these layers can not be determined.

Although a single continuous clay layer is not believed to be present at the installation, extensive clay layers were reported. Clay (between 10 and 40 feet thick) was commonly encountered in borings located in the Southeast and Southwest Disposal Areas, as well as in many deep borings located in the Industrial Area (Figures 3-15, 3-16, and 3-18).

The clay layer in the Southeast Disposal Area is suspected of underlying large parts of Sites 9, 10, 11, and 13 (Figures 3-10, 3-11, and 3-12). The clay in the Industrial Area is extensive, yet discontinuous, and may be dipping below the terminal depths of many of the shallow well borings (Figures 3-15, 3-16, and 3-18). In both the Industrial and Southeast Disposal Areas the top of clay was reported at elevations ranging from 50 to 75 feet above NGVD.

Significant clay layers were also recorded in the Southwest Disposal Area. Although there is a greater than a 100-foot elevation difference between the top of clay layers within the Industrial Area and the Southwest Disposal Areas, this separation is consistent with topographic relief and regional lithologic descriptions (regional literature indicates southwestward dip of sediments). Therefore, the possibility exists that these clay layers are interconnected. The PCPT soundings used to investigate the lithology between the Industrial and Southwest Disposal Areas were not deep enough to confirm the continuity of the clay layer (Figure 3-25). Therefore, the clay layer can only be inferred between these two areas. Additionally, because the layer was not investigated between the Industrial and the Southeast Disposal Areas, its continuity is speculative there as well.

The greatest boring depth attained during the geologic investigation was 175 feet below NGVD in monitoring well WHF-16-2D. Two separate clay layers were reported in the lithologic descriptions of monitoring well WHF-16-2D. The upper clay layer was encountered at 65 feet below NGVD. Monitoring wells WHF-16-3D and WHF-16-4D were the only additional installation borings completed deep enough to encounter this layer. The clay layer was not detected in monitoring well WHF-16-3D and was only reported in the last lithologic sample for WHF-16-4D. None of the installation borings were completed deep enough to encounter the deeper clay layer (located between 125 and 170 feet below NGVD). Therefore, it is impossible to speculate on its areal extent.



4.0 ASSESSMENT SUMMARY

The assessment summary is as follows.

- The lithologic features of the vadose and saturated zones underlying individual sites (and the major areas delineated in this report) have been thoroughly characterized. The subsurface soil data provided an adequate understanding of installation-wide lithology.

The lithology and stratification of the material encountered at the installation are consistent with the descriptions of the Citronelle Formation. Site-specific lithologic descriptions indicated interbedded sand, silt, and silty sand units with occasional discontinuous clay layers. The presence of numerous clay layers and rapid facies changes suggests a very low to moderately energetic depositional environment.

- The geologic assessment produced sufficient data to characterize existing clay layers that underlie individual sites (Sites 3, 5, 6, 9, 10, 11, 13, 15, 16, 17, and 30). Additionally, the assessment produced an adequate representation of existing clay layers underlying the four areas of the installation.
- The clay underlying the Southeast Disposal Area is relatively continuous; however, discontinuities exist and a large portion is inferred (Figures 3-8 through 3-12).
- Clay layers were detected at many sites throughout the Industrial Area (Sites 3, 5, 6, 29, and 30). An extensive clay layer may exist in the Industrial Area; however, many significant discontinuities have been confirmed or are suspected.
- A clay layer, of very limited areal extent, was detected at the Northwest Disposal and Crash Crew Training Areas (Figures 3-2 and 3-3). The layer is too shallow to be correlated with the layer at the Industrial Area (Figure 3-20), and the terminal depths of the assessment in this area is insufficient to confirm the existence of a deeper clay layer.
- Significant clay layers were detected at various depths in the Southwest Disposal Area. The thin layers encountered between 75 feet above and 50 feet below NGVD were not continuous throughout the area. The layer encountered at 65 feet below NGVD (Figure 3-23, WHF-16-2D) was deeper than the terminal depths of most other borings in the area (clay was detected in the tip of the last split-spoon sample of WHF-16-4D at 70 feet below NGVD). The layer located at 125 feet below NGVD was far below the terminal depths of all other borings at the installation.
- The PCPT soundings provided additional lithologic data, but failed to obtain the depth necessary to confirm the presence or continuation of a clay layer between the Industrial Area and the Southwest Disposal Area.
- A facility-wide continuous clay layer does not exist between ground surface and 50 feet above NGVD.

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APPENDIX A

RI PHASE I MONITORING WELL LITHOLOGIC DESCRIPTIONS

TITLE: NAS WHITING FIELD RI				LOG of WELL: WHF-5-OW-1		BORING NO.	
CLIENT: SDIV NAVY				PROJECT NO: 6500-01			
CONTRACTOR: WILLIAMS & ASSOC.				DATE STARTED: 1-8-91		COMPLTD: 3-4-91	
METHOD: MUD-ROTARY		CASE SIZE: 4-INCH		SCREEN INT.: 10-INCH		PROTECTION LEVEL: D	
TOC ELEV.: 185.80 FT.		MONITOR INST.: OVA		TOT DPTH: 201.5FT.		DPTH TO ∇ 121.36 FT.	
LOGGED BY: A. DESANDRO		WELL DEVELOPMENT DATE: 3-6-91				SITE: WHITING FIELD	

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
		1.2/1.5		SAND-dk brown very fine sand		SP		
5	2	1.3/1.5	0	CLAY-white/red brown clay w/ some sand, mottled, moderate plasticity		CL	8-15-20	
10	3	1.0/1.5	1	SAND-red brown fine to medium sand		SP	17-20-25	
15	4	0.5/1.5	1	SAND-white/lt pink very fine sand		SP	9-17-26	
20	5	1.0/1.5	0	Same as above		SP	16-22-22	
25	6	1.0/1.5	0	CLAY-gray/red brown, mottled, good plasticity		CH	6-15-29	
30	7	1.0/1.5	0	SAND-white very fine sand		SP	19-37-40	
35	8	1.0/1.5	0	Same as above		SP	19-25-32	
40	9	0.3/1.5	0	SAND-white fine sand		SP	20-25-31	
45	10	0.8/1.5	1	SAND-white/lt pink fine to medium sand		SP	25-40-50/5.	
50	11	1.0/1.5	0	SAND-lt gray/white fine to very fine sand		SP	12-20-28	
55	12	1.0/1.5	2.4	Same as above		SP	16-20-21	
60	13	1.0/1.5	0	SAND-white/lt brown coarse sand to gravel		SP	8-19-22	
65	14	0.8/1.5	0	SAND-lt brown medium to coarse sand		SP	19-28-30	
70	15	1.2/1.5	0	SAND-lt red/gray fine sand		SP	15-20-24	
75	16	1.0/1.5	0	SAND-lt red/red fine to very fine sand w/ trace gravel		SP	17-25-32	
80	17	0.5/1.5	0	SAND-lt gray very fine sand		SP	19-27-35	
85	18	1.0/1.5	1	SAND-lt gray/red very fine sand		SP	23-33-48	
90	19	0.3/1.5	0	SAND-tan medium to fine sand		SP	38-50/5	
95	20	0.4/1.5	0	Same as above		SP	32-50/6	
100	21	0.2/1.5	0	SAND-tan coarse to medium sand		SP	36-50/5.5	
105	22	1.0/1.5	0	SAND-tan/pink coarse sand w/ little gravel		SP	29-31-50/5	
110	23		0			SP	42-50/5	

TITLE: NAS WHITING FIELD RI				LOG of WELL: WHF-5-OW-1		BORING NO.	
CLIENT: SDIV NAVY				PROJECT NO: 6500-01			
CONTRACTOR: WILLIAMS & ASSOC.				DATE STARTED: 1-8-91		COMPLTD: 3-4-91	
METHOD: MUD-ROTARY		CASE SIZE: 4-INCH		SCREEN INT.: 10-INCH		PROTECTION LEVEL: D	
TOC ELEV.: 185.80 FT.		MONITOR INST.: OVA		TOT DPTH: 201.5FT.		DPTH TO ∇: 121.38 FT.	
LOGGED BY: A. DESANDRO		WELL DEVELOPMENT DATE: 3-6-91				SITE: WHITING FIELD	

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
Continued from PAGE 1								
115	24	0.1/1.5	0	SAND-tan medium to fine sand		SP	50/5	
120	25	0.0/1.5	0	NO RECOVERY-blow count indicate sand		SP	10-11-12	
125		1.5/1.5	0	CLAY-gray/red clay, mottled, good plasticity		CH		
130				CLAY-SHELBY TUBE SAMPLE		CH		
135	26	1.4/1.5	0	CLAY-gray/brown clay, mottled, good plasticity		CL	9-22-50/5	
140	27	0.3/1.5	0	CLAY-gray/brown clay, mottled, low plasticity		CL	29-32-50/5	
145	28	0.5/1.5	0	SAND-pink/tan very fine sand		SP	23-35-31	
150	29	1.0/1.5	0.2	SAND and CLAY-pink very fine sand w/ some clay, thin clay lense (4")		SC	20-23-31	
155	30	0.8/1.5	1	SAND-gray/pink very fine to fine sand, clay lense (2")		SP	29-40-50	
160	31	0.0/1.5	NA	NO RECOVERY-blow counts indicate sand			48-50/3	
165	32	0.0/1.5	NA	NO RECOVERY-blow counts indicate sand			50/5.5	
170	33		NA	NO RECOVERY-blow counts indicate sand		SP	NA	
175	34	1.2/1.5	0	SAND-tan/white coarse sand to gravel w/ some pebbles		SP	38-19-26	
180	35	1.2/1.5	0	SAND-red/tan fine to medium sand w/ some clay		SC	35-50/5	
185	36	0.0/1.5	NA	NO RECOVERY-blow counts indicat sand		SP	50/5	
190						SP		
195	37	0.8/1.5	0	SAND-tan coarse sand and gravel w/ trace clay		SP	28-34-38	
200	38	0.8/1.5	0	SAND-red/tan coarse sand and gravel w/ trace clay		SP	34-50/3.5	
205				SAND-buff fine to coarse sand w/ some gravel				
210				CLAY-buff/brown/tan clay w/ some fine to coarse sand and gravel				
215				SAND-buff fine to coarse sand w/ some gravel				
220				CLAY-yellow/buff/brown clay w/ some fine to coarse sand				

TITLE: NAS WHITING FIELD RI				LOG of WELL: WHF-9-2		BORING NO.	
CLIENT: SDIV NAVY						PROJECT NO: 6500-01	
CONTRACTOR: WILLIAMS & ASSOC.				DATE STARTED: 11-26-90		COMPLTD: 12-13-90	
METHOD: MUD-ROTARY		CASE SIZE: 4-INCH		SCREEN INT.: 10-INCH		PROTECTION LEVEL: D	
TOC ELEV.: 161.19 FT.		MONITOR INST.: OVA		TOT DPTH: 120FT.		DPTH TO ∇: 96.19 FT.	
LOGGED BY: E. BLOMBERG		WELL DEVELOPMENT DATE: 1-9-91				SITE: WHITING FIELD	

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
5	2	1.2/1.5	0.5	SAND-brown/orange brown fine sand w/ little silt, loose		SP	4-4-6	
10	3	1.0/1.5	0	SAND-red orange fine sand w/ little silt, trace clay		SP	3-5-7	
15	4	0.8/1.5	0	SAND-red orange fine sand w/ little silt		SP	7-9-13	
20	5	1.0/1.5	0	SAND-dark red fine sand w/ little silt, trace clay, dense		SP	7-10-12	
25	6	1.1/1.5	0	Same as above		SP	12-16-18	
30	7	1.0/1.5	0	Same as above		SP	6-9-10	
35	8	0.9/1.5	0	SAND-yellow to white		SP	7-10-10	
40	9	1.0/1.5	0	SAND-yellow/white/purple/pink fine sand w/ trace silt, mottled		SP	8-11-12	
45	10	1.2/1.5	0	SAND-maroon/purple/white/yellow sand, w/ trace silt, stratified, mottled		SW	12-17-19	
50	11	1.1/1.5	0	SAND-pink fine to coarse sand, well graded, loose		SP	13-13-13	
55	12	0.6/1.5	0	SAND-white very coarse sand		SP	25-27-37	
60	13	0.6/1.5	0	SAND-pink/white fine sand, dense		SP	22-42-48	
65	14	0.7/1.5	0	SAND-pink/tan fine to medium sand, dense		SP	36-50-50/4	
70	15	0.4/1.5	0	Same as above		SW	24-35-40	
75	16	0.5/1.5	0	SAND-pink/yellow fine coarse sand, well graded		SP	36-50/5	
80	17	0.3/1.5	0	SAND-pink/tan medium sand w/ some fine sand, dense		SP	22-32-15	
85	18	1.4/1.5	0	SAND-orange/pink fine sand w/ little silt		CL	5-10-15	
90	19	1.5/1.5	0	CLAY-gray clay w/ some silt, low to moderate plasticity		CL	7-13-15	
95	20	1.5/1.5	0	CLAY-purple/gray clay, mottled, good plasticity		CH	9-10-18	
100	21	1.5/1.5	0	CLAY-gray/light brown clay, mottled, good plasticity		CH	35-36-56	
105	22	0.5/1.5	0	CLAY-purple/gray clay, mottled, good plasticity		SW	36-55-	
110	23	0.5/1.5	0	SAND-lt brown/lt gray fine to medium sand		SP	16-31-56	
115	24	0.5/1.5	0	SAND-lt red/lt gray, very fine sand		SP	29-35-40	
120	25	1.0/1.5	4	SAND-pink/lt brown fine to medium sand w/ trace gravel		SP	25-36-55	
125		1.0/1.5		SAND-lt brown fine sand				

TITLE: NAS WHITING FIELD RI				LOG of WELL: WHF-11-2		BORING NO.		
CLIENT: SDIV NAVY				PROJECT NO: 6500-01				
CONTRACTOR: WILLIAMS & ASSOC.				DATE STARTED: 11-27-90		COMPLTD: 12-1-90		
METHOD: MUD-ROTARY		CASE SIZE: 4-INCH		SCREEN INT.: 10-INCH		PROTECTION LEVEL: D		
TOC ELEV.: 148.17 FT.		MONITOR INST.: OVA		TOT DPTH: 130FT.		DPTH TO ▽ 89.86 FT.		
LOGGED BY: E. BLOMBERG		WELL DEVELOPMENT DATE: 1-8-91				SITE: WHITING FIELD		
DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
		1.1/1.5		SAND-red orange/brown fine sand w/ little silt, trace clay		SP		
5	2	1.2/1.5	0	SAND-dark red fine sand w/ some clay		SC	4-6-7	
10	3	1.0/1.5	0	SAND-dark red fine sand w/ little clay and silt		SP	3-5-5	
15	4	1.0/1.5	0	SAND-dark red to red orange fine sand w/ little silt and clay		SP	9-13-17	
20	5	0.9/1.5	0	SAND-red brown/gray/yellow fine sand w/ little silt and clay, mottled		SP	10-17-18	
25	6	1.1/1.5	0	CLAY-blue gray/dark purple clay w/ some silt, mottled		CL	2-5-7	
30	7	1.4/1.5	0	SAND-dark red to yellow fine sand w/ some silt		SM	3-7-7	
35	8	1.2/1.5	0	SAND-pink/yellow/gray fine sand w/ little silt and clay, mottled		SP	9-8-5	
40	9	1.5/1.5	0	SAND-yellow/pink/maroon/gray fine sand w/ little silt and clay		SP	7-5-5	
45	10	0.7/1.5	0	SAND-red/yellow/gray/pink fine sand w/ trace clay and gravel		SP	10-12-15	
50	11	0.7/1.5	0	SAND-light brown fine to medium sand, dense		SP	18-30-40	
55	12	0.6/1.5	0	SAND-light brown fine to coarse sand, dense, well sorted		SW	19-22-30	
60	13	0.4/1.5	0	SAND-brown coarse sand w/ little medium sand		SP	12-18-20	
65	14		0			SP	13-13-21	

TITLE: NAS WHITING FIELD RI		LOG of WELL: WHF-11-2		BORING NO.
CLIENT: SDIV NAVY			PROJECT NO: 6500-01	
CONTRACTOR: WILLIAMS & ASSOC.		DATE STARTED: 11-27-90		COMPLTD: 12-1-90
METHOD: MUD-ROTARY	CASE SIZE: 4-INCH	SCREEN INT.: 10-INCH	PROTECTION LEVEL: 0	
TOC ELEV.: 148.17 FT.	MONITOR INST.: OVA	TOT DPTH: 130FT.	DPTH TO ▽ 89.86 FT.	
LOGGED BY: E. BLOMBERG	WELL DEVELOPMENT DATE: 1-8-91		SITE: WHITING FIELD	

DEPTH FT.	LABORATORY SAMPLE ID.	RECOVERY HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
Continued from PAGE 1							
		1.0/1.5	SAND-brown/purple/gray/yellow fine sand w/ little clay, stratified		SP		
70	15	0.7/1.5	SAND-brown/yellow fine sand w/ trace silt and clay		SW	8-11-20	
75	16	1.5/1.5	CLAY-purple/light gray clay, moderate plasticity, mottled		CL-CH	8-9-13	
80	17	1.5/1.5	CLAY-purple/lt gray/yellow clay, w/ trace silt, moderate plasticity, mottled		CL-CH	7-9-13	
85	18	0.2/1.5	CLAY-brown/gray clay		CL-CH	7-14-19	
90	19	1.5/1.5	CLAY-brown/gray clay, moderate plasticity		CL-CH	6-8-125	
95	20	1.0/1.5	SAND-pink/gray fine to medium sand w/ some clay		SP	20-40-42	
100	21	1.0/1.5	CLAY-pink/gray/red clay, low plasticity		CL	20-40-42	
105	22	1.0/1.5	SAND-pink/gray medium sand		SP	26-30-30	
110	23	0.5/1.5	SAND-lt brown/tan fine sand		SP	50/5	
115	24	1.0/1.5	SAND-lt gray/white medium sand w/ some gravel		SP	40-50/50	
120	25	1.0/1.5	SAND-lt brown/tan coarse sand w/ some gravel		SP		
125		1.0/1.5	SAND-tan/brown fine to medium sand w/ some coarse sand CLAY-yellow/buff/brown clay w/ some fine to coarse sand				
130							

APPENDIX B

RI PHASE IIA SOIL BORING LITHOLOGIC DESCRIPTIONS

TITLE: NAVAL AIR STATION WHITING FIELD				LOG of WELL: N/A		BORING NO. WHF-02-SB-01	
CLIENT: SOUTHNAVFACENGCOM						PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.				DATE STARTED: 07/30/93		COMPLTD: 07/30/93	
METHOD: HSA		CASE SIZE: N/A		SCREEN INT.: N/A		PROTECTION LEVEL: D	
TOC ELEV.: N/A FT.		MONITOR INST.: OVA		TOT DPTH: 70FT.		DPTH TO ∇ 68 ft FT.	
LOGGED BY: G. Walker		WELL DEVELOPMENT DATE: N/A				SITE: 02 - Landfill	




DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
(0-2')		24/24	0	FILL: Black, Very fine to medium grained, dry, trace of gravel cinders and brick fragments, organics.		FILL	10,12,14,16	
5	(5-7')	20/24	7	FILL: Black and medium brown, very fine to medium grained sand, poorly graded, dry, stiff.		FILL	27,18,19,22	
10	(10-12')	19/24	5	Same as above.		FILL	18,19,22,27	
15	(15-17')	14/24	1.5	FILL: Top 6" same as above, abrupt contact to SAND. SAND: Fine to very fine grained, poorly graded, medium density, dry.		SP	3,7,9,14	
20	(20-22')	13/24	0	Same as above, 4" lens of clay 6" from the top.		SP	7,8,9,11	
25		20/24	0	Same as above for 2", 3" lens of clay below. SAND: Very pale orange to medium reddish brown, very fine to fine grained, poorly graded, medium density, dry.		SP	5,7,9,9	
30		14/24	1	Same as above.		SP	14,20,23,28	
35						SP		




TITLE: NAVAL AIR STATION WHITING FIELD		LOG of WELL: N/A		BORING NO. WHF-02-SB-01	
CLIENT: SOUTHNAVFACENGCOM				PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.			DATE STARTED: 07/30/93		COMPLTD: 07/30/93
METHOD: HSA		CASE SIZE: N/A		SCREEN INT.: N/A	
TOC ELEV.: N/A FT.		MONITOR INST.: OVA		PROTECTION LEVEL: D	
LOGGED BY: G. Walker		TOT DPTH: 70FT.		DPTH TO ∇ 68 ft FT.	
WELL DEVELOPMENT DATE: N/A			SITE: 02 - Landfill		

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
Continued from PAGE 1								
		17/24	7	SAND: Very pale orange, poorly sorted, dry.		SP	17,19,22,26	
40		14/24	20	Same as above.		SP	11,12,15,18	
45		19/24	0	Same as above.		SP	14,17,19,22	
50	(50-52')	20/24	0	Same as above.		SP	17,22,30,50	
55		19/24	0	Same as above.		SP	16,20,32,27	
60		21/24	0	Same as above.		SP	17,20,23,27	
65		14/24	0	Same as above, bottom 4" wet.		SP	8,11,12,20	
70	(68-70')	21/24	0	Same as above, ground water level.		SP	8,8,9,11	

TITLE: NAVAL AIR STATION WHITING FIELD		LOG of WELL: N/A		BORING NO. WHF-03-SB-01				
CLIENT: SOUTHNAVFACENGCOM				PROJECT NO: RI PHASE IIA				
CONTRACTOR: Groundwater Protection Inc.			DATE STARTED: 01/20/93		COMPLTD: 01/20/93			
METHOD: HSA		CASE SIZE: N/A		SCREEN INT.: N/A				
TOC ELEV.: N/A FT.		MONITOR INST.: OVA		TOT DPTH: 27FT.				
LOGGED BY: B. Colby		WELL DEVELOPMENT DATE: N/A			SITE: 03 - Waste Solvent Storage			
DEPTH FT.	LABORATORY SAMPLE ID.	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
(0-2')			< 1	CLAYEY SAND: Orange brown, some organics and fine gravel, well rounded.		SC		Hand Auger
5 (5-7')		24/24	0	SAA, increased clay.		SC		1,1,2,3
10		20/24	0	SAA, wet.		SC		1,2,2,3
15 (15-17')		20/24	0	SANDY CLAY: Orange to white, medium plasticity.		CL		4,5,9,8
20		20/24	0	CLAY: Orange to white, some silt and sand, medium plasticity, moist.		CL		3,4,5,7
25 (25-27')		24/24	0	SAA: (6") SAND: (18"), Dark purple to grayish white, well rounded.		CL SP		10,21,25,9
30								
35								
40								

TITLE: NAVAL AIR STATION WHITING FIELD				LOG of WELL: N/A		BORING NO. WHF-03-SB-03	
CLIENT: SOUTHNAVFACENGCOM						PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.				DATE STARTED: 01/10/93		COMPLTD: 01/10/93	
METHOD: HSA		CASE SIZE: N/A		SCREEN INT.: N/A		PROTECTION LEVEL: 0	
TOC ELEV.: N/A FT.		MONITOR INST.: OVA		TOT DPTH: 12FT.		DPTH TO ▽: N/A FT.	
LOGGED BY: G. Walker		WELL DEVELOPMENT DATE: N/A				SITE: 03 - Waste Solvent Storage	

DEPTH F.T.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
(0-2')			< 1	SAND: Moderate brown, fine to medium, trace silt, poorly sorted, moist, little gravel.		SM	Hand Auger	
5 (5-7')		18/24	0	SAND: Moderate reddish orange, very fine to medium, trace gravel, poorly sorted, dry.		SP	7,6,3,7	
10 (10-12')		16/24	0	SAA.		SM	7,7,9,9	
15								
20								
25								
30								
35								
40								

TITLE: NAVAL AIR STATION WHITING FIELD				LOG of WELL: N/A		BORING NO. WHF-03-SB-05	
CLIENT: SOUTHNAVFACENGCOM						PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.				DATE STARTED: 01/08/93		COMPLTD: 01/08/93	
METHOD: HSA		CASE SIZE: N/A		SCREEN INT.: N/A		PROTECTION LEVEL: D	
TOC ELEV.: N/A FT.		MONITOR INST.: OVA		TOT DPTH: 12FT.		DPTH TO ▽: N/A FT.	
LOGGED BY: D. Lonergan		WELL DEVELOPMENT DATE: N/A				SITE: 03 - Waste Solvent Storage	
DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN
(1-2)			0	SILTY SAND: Brown, fine, well sorted.		SM	Hand Auger
(5-7')		20/24	0	SAA, red, brown mottled.		SM	2,2,1,2
(10-12')		19/24	0	SAA, trace clay.		SM	3,7,11,12
5							
10							
15							
20							
25							
30							
35							
40							

TITLE: NAVAL AIR STATION WHITING FIELD		LOG of WELL: N/A		BORING NO. WHF-03-SB-06	
CLIENT: SOUTHNAVFACENGCOM				PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.			DATE STARTED: 01/18/93		COMPLTD: 01/18/93
METHOD: HSA		CASE SIZE: N/A		SCREEN INT.: N/A	
TOC ELEV.: N/A FT.		MONITOR INST.: OVA		TOT DPTH: 102FT.	
LOGGED BY: R. Nelson		WELL DEVELOPMENT DATE: N/A		SITE: 03 - Building 2941	

DEPTH F.T.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
(1-2')			0	SAND: Fine, light brown, poorly sorted, subrounded, slightly moist.		SP	Hand Auger	
5 (5-7')		18/24	0	SAND: Fine, reddish brown, little clay, poorly sorted, slightly moist.		SC	9,8,12,14	
10 (10-12')		16/24	0	SAND: Fine, with reddish clay, poorly sorted, slightly moist.		SC	5,8,8,10	
15 (15-17')		20/24	0	SAND CLAY MIXTURE: Reddish, fine to medium, poorly sorted, moist, mottled with white sandy clay.		SC	7,7,10,12	
20		16/24	0	SAND: Fine, white with pink mottling, poorly sorted, sub angular.		SP	11,11,10,14	
25 (25-27')		16/24	0	SAND: Fine, whiteish pink, poorly sorted, sub angular, slightly moist, 1" pink stratified sand at 26'9".		SP	10,14,14,16	
30		14/24	0	SAND: Fine, pinkish white, poorly sorted, sub rounded, moist.		SP	5,5,4,6	
35		16/24	0	SAND: Fine, with trace coarse, white, poorly sorted, sub rounded, slightly moist.		SP	4,5,8,8	
40		15/24	0	Same as Above.		SP	5,5,7,11	
45		14/24	0	Same as above.		SP	6,5,7,6	
50		15/24	0	SAND: Pinkish white, poorly graded, subrounded, 1" pink stratified silty sand at 51'2".		SP	5,6,5,6	
55						SP		

TITLE: NAVAL AIR STATION WHITING FIELD		LOG of WELL: N/A		BORING NO. WHF-03-SB-06	
CLIENT: SOUTHNAVFACENGCOM				PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.			DATE STARTED: 01/18/93		COMPLTD: 01/18/93
METHOD: HSA		CASE SIZE: N/A		SCREEN INT.: N/A	
TOC ELEV.: N/A FT.		MONITOR INST.: OVA		TOT DPTH: 102FT.	
LOGGED BY: R. Nelson		WELL DEVELOPMENT DATE: N/A		SITE: 03 - Building 2941	
PROTECTION LEVEL: D		DEPTH TO ∇: N/A FT.			

DEPTH F.T.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
Continued from PAGE 1								
		16/24	0	SAND: Fine, light tan to off white, poorly graded, sub rounded, moist.		SP	5,8,11,14	
60		14/24	0	Same As Above, slightly moist.		SP	6,7,9,10	
65		16/24	9	SAND: Fine, pink white, trace silt, poorly graded, slightly moist, subrounded.		SP	7,7,10,9	
70	(70-72')	20/24	30	SAND: Fine, pink white, poorly graded, moist, subangular, trace sandy clay.		SP	20,19,24,40	
75		18/24	30	Same as above, no trace sandy clay.		SP	12,14,14,15	
80		18/24	10	SAND: Fine, off white, poorly graded, sub angular, slightly moist, 1/2" alternating pink and tan bands.		SP	10,10,12,14	
85		18/24	4	Same as above, 2" band of purple and reddish brown fine sand at 85'2".		SP	10,11,7,7	
90		16/24	18	SAND: Fine, tan brown, poorly graded, slightly moist, 2" purple to red striations.		SP	7,8,18,31	
95		18/24	60	Same as above.		SP	18,10,9,8	
100	(100-102')	24/24	0	CLAY: Light brown and tan, soft, low plasticity, moist.		CL	7,14,26,24	
105								
110								

TITLE: NAVAL AIR STATION WHITING FIELD		LOG of WELL: N/A		BORING NO. WHF-03-SB-07	
CLIENT: SOUTHNAVFACENGCOM				PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.			DATE STARTED: 01/27/93		COMPLTD: 01/27/93
METHOD: Hand Augers		CASE SIZE: N/A		SCREEN INT.: N/A	
TOC ELEV.: N/A FT.		MONITOR INST.: OVA		TOT DPTH: 22FT.	
LOGGED BY: J. Binks		WELL DEVELOPMENT DATE: N/A		SITE: 03 - Waste Solvent Storage	
PROTECTION LEVEL: D		DEPTH TO ∇: N/A FT.			

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
(0-2')		24/24	0	SAND: Yellow to tan, fine to medium, poorly graded, sub-angular.		SP		Hand Auger
5 (5-7')		24/24	0	SAA, lense of red brown clayey sand, fine.		SP		Hand Auger
10 (10-12')		24/24	0	CLAY: Gray, lenses of red brown clayey sand.		SC		Hand Auger
15								
20								
25								

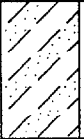




TITLE: NAVAL AIR STATION WHITING FIELD				LOG of WELL: N/A		BORING NO. WHF-03-SB-08	
CLIENT: SOUTHNAVFACENGCOM						PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.				DATE STARTED: 01/08/93		COMPLTD: 01/08/93	
METHOD: HSA		CASE SIZE: N/A		SCREEN INT.: N/A		PROTECTION LEVEL: D	
TOC ELEV.: N/A FT.		MONITOR INST.: OVA		TOT DPTH: 22FT.		DPTH TO ∇: N/A FT.	
LOGGED BY: D. Lonergan		WELL DEVELOPMENT DATE: N/A				SITE: 03 - Waste Solvent Storage	

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
			0	SAND: Brown, fine, well sorted.		SP		Hand Auger
5		12/24	0	SILTY SAND: Red brown, tan mottled.		SM	3,7,8,10	
10	(10-12')	19/24	0	SAA, trace clay.		SM	5,12,17,22	
15	(15-17')	20/24	0	CLAYEY SAND: Pink to red with tan mottling, trace silt and pebbles.		SC	9,12,13,18	
20		18/24	0	SILTY SAND: Pink and tan mottled, trace clay.		SM	6,7,13,19	
25								
30								
35								
40								

TITLE: NAVAL AIR STATION WHITING FIELD		LOG of WELL: N/A		BORING NO. WHF-03-SB-10
CLIENT: SOUTHNAVACENGCOM			PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 01/08/93		COMPLTD: 01/08/93
METHOD: HSA	CASE SIZE: N/A	SCREEN INT.: N/A	PROTECTION LEVEL: D	
TOC ELEV.: N/A FT.	MONITOR INST.: OVA	TOT DPTH: 17FT.	DPTH TO ▽: N/A FT.	
LOGGED BY: D. Lonergan	WELL DEVELOPMENT DATE: N/A		SITE: 03 - Waste Solvent Storage	

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
				0	SAND: Brown, fine.		SP	Hand Auger	
5			18/24	0	SAND: Red brown, fine, some silt.		SM	7,9,17,18	
10	(10-12')		20/24	0	CLAYEY SILT: Red and tan mottled, some sand and pebbles.		ML	4,10,11,14	
15	(15-17')		16/24	0	SAA, red to pink, moist.		ML	6,8,12,13	
20									
25									
30									
35									
40									

TITLE: NAVAL AIR STATION WHITING FIELD		LOG of WELL: N/A		BORING NO. WHF-6-SB-1	
CLIENT: SOUTHNAVFACENGCOM				PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.			DATE STARTED: 12/04/92		COMPLTD: 12/04/92
METHOD: HSA		CASE SIZE: N/A		SCREEN INT.: N/A	
TOC ELEV.: N/A FT.		MONITOR INST.: OVA		TOT DPTH: 22FT.	
LOGGED BY: S. Consalvi		WELL DEVELOPMENT DATE: N/A			SITE: 6 - Trans. Oil Disposal Area

DEPTH F.T.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
				0	SANDY SILT: Moderate reddish brown, fine.		ML		POSTHOLE
5 (5-7')			12/24	0	SANDY CLAY: Moderate reddish brown, fine, 1/2" lens of clayey sand pale reddish orange fine to medium.		CL	3,1,2,1	
10			24/24	0	CLAYEY SAND: Moderate reddish brown, fine, vertical dark yellow orange streak.		SC	2,2,3,4	
15 (15-17')			20/24	0	SAA, 1/8" dark yellow orange sand lens.		SC	3,4,4,9	
20			18/24	0	SAA, color change to greyish yellow at 20.5 ft., dark reddish brown mottling.		SC	5,7,9,8	
25									
30									
35									
40									

TITLE: NAVAL AIR STATION WHITING FIELD				LOG of WELL: N/A		BORING NO. WHF-6-SB-2	
CLIENT: SOUTHNAVFACENGCOM						PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.				DATE STARTED: 12/04/92		COMPLTD: 12/04/92	
METHOD: HSA		CASE SIZE: N/A		SCREEN INT.: N/A		PROTECTION LEVEL: 0	
TOC ELEV.: N/A FT.		MONITOR INST.: OVA		TOT DPTH: 22FT.		DPTH TO ∇ N/A FT.	
LOGGED BY: S. Consalvi		WELL DEVELOPMENT DATE: N/A				SITE: 6 - Trans. Oil Disposal Area	

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
(0-2')		22/24	0	SANDY CLAY: Moderate reddish brown, fine, well sorted, no odor.		CL	-----	
(5-7')		20/24	0	SAA, litho change at 5.5' to clayey sand greyish yellow, fine.		CL SC	-----	
(10-12')		18/24	0	SILTY SAND: Moderate reddish brown, fine, greyish yellow clay mottling.		SM	-----	
(15-17')		16/24	8.5	SAA, moderate reddish orange above greyish orange pink, fine to medium sand.		SM	-----	
(20-22')		16/24	0	SAA, red silty sand over 8" very light grey fine sand, well sorted over 4" moderate orange pink, fine.		SM	-----	

TITLE: NAVAL AIR STATION WHITING FIELD		LOG of WELL: N/A		BORING NO. WHF-6-SB-3	
CLIENT: SOUTHNAVFACENGCOM				PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.			DATE STARTED: 12/05/92		COMPLTD: 12/05/92
METHOD: HSA		CASE SIZE: N/A	SCREEN INT.: N/A	PROTECTION LEVEL: D	
TOC ELEV.: N/A FT.		MONITOR INST.: OVA	TOT DPTH: 119FT.	DPTH TO ∇ N/A FT.	
LOGGED BY: S. Consalvi		WELL DEVELOPMENT DATE: N/A		SITE: 06 - Trans. Oil Disposal Area	

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
(0-2')			20/24	0	SANDY SILT: Grey red, fine, well sorted, some roots, clay, moderate red, moist.		ML	2,3,4,3	
							CL		
5 (5-7')			14/24	0	SAA, dry, increase sand.		CL	3,4,4,4	
10 (10-12')			14/24	0	SAA.		CL	5,5,7,5	
15 (15-17')			18/24	0	SILTY SAND: Moderate reddish orange to white, fine.		SM	9,7,8,8	
20			18/24	0	SAA, moderate reddish white clay nodules.		SM	8,9,8,8	
25 (25-27')			--/24	-	SAND: Moderate orange pink to white, fine.		SP	14,24,39,42	
30			18/24	0	SAND: White to very pale orange white, fine, red lenses.		SP	8,19,21,19	
35			14/24	0	SAA, greyish pink orange to pale yellow orange.		SP	8,15,21,32	
40							SM		






TITLE: NAVAL AIR STATION WHITING FIELD		LOG of WELL: N/A		BORING NO. WHF-6-SB-3
CLIENT: SOUTHNAVFACENGCOM			PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 12/05/92		COMPLTD: 12/05/92
METHOD: HSA	CASE SIZE: N/A	SCREEN INT.: N/A	PROTECTION LEVEL: 0	
TOC ELEV.: N/A FT.	MONITOR INST.: OVA	TOT DPTH: 119FT.	DPTH TO ∇: N/A FT.	
LOGGED BY: S. Consalvi		WELL DEVELOPMENT DATE: N/A		SITE: 06 - Trans. Oil Disposal Area

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
Continued from PAGE 1								
		16/24	0	SAND: Greyish pink, very fine, 1/4" layer of dusky brown sand.		SM	13,15,27,25	
45		12/24	0	SAA, no brown layer, light red streaks.		SM	13,17,19,18	
50	(50-52')	16/24	< 1	SAA.		SM	8,14,18,17	
55		16/24	0	SAND: Greyish pink, fine, moderate reddish orange lenses.		SP	9,15,22,24	
60	(60-62')	22/24	0	SAND: Greyish pink to pale yellowish orange, fine to coarse, poorly sorted.		SW	5,5,19,16	
65		16/24	0	SAND: Greyish pink to pale yellowish orange, fine.		SP	7,13,14,16	
70		20/24	< 1	SAND: Greyish pink, fine to coarse.		SP	17,16,23,22	
75		18/24	< 1	SAA, greyish pink, no color change.		SP	15,24,22,27	
80						SW		

TITLE: NAVAL AIR STATION WHITING FIELD		LOG of WELL: N/A		BORING NO. WHF-6-SB-3	
CLIENT: SOUTHNAVFACENGCOM				PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.			DATE STARTED: 12/05/92		COMPLTD: 12/05/92
METHOD: HSA		CASE SIZE: N/A		SCREEN INT.: N/A	
TOC ELEV.: N/A FT.		MONITOR INST.: OVA		TOT DPTH: 119FT.	
LOGGED BY: S. Consalvi		WELL DEVELOPMENT DATE: N/A			SITE: 06 - Trans. Oil Disposal Area

DEPTH FT.	LABORATORY SAMPLE ID.	RECOVERY HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
Continued from PAGE 2							
	16/24	0	SAA, white, traces gravel.		SW	16,25,31,42	
85	20/24	0	SAND: White, fine, poorly graded, slight pink hue.		SP	39,33,52,55	
90	10/24	0	SAA, no pink hue, moderate orange pink striations.		SP	28,34,37,35	
95	20/24	-	SAND: White to dark yellowish orange, fine, very moist.		SP	26,31,30,28	
100	22/24	-	SAA, poorly graded.		SP	23,21,28,40	
105	23/24	-	CLAY: Very dark red, yellowish grey mottling.		CH	6,4,9,17	
110	---/24	-	CLAY: Dark grey.		CH	2,4,7,14	
115	24/24	-	CLAY: Very dark red, light grey mottling, very thin silt lenses.		CH	29,8,24,44	
	24/24	-	SAA.			21,27,45,24	
120							

TITLE: NAVAL AIR STATION WHITING FIELD				LOG of WELL: N/A		BORING NO. WHF-6-SB-4	
CLIENT: SOUTHNAVFACENGCOM						PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.				DATE STARTED: 12/04/92		COMPLTD: 12/04/92	
METHOD: HSA		CASE SIZE: N/A		SCREEN INT.: N/A		PROTECTION LEVEL: D	
TOC ELEV.: N/A FT.		MONITOR INST.: OVA		TOT DPTH: 22FT.		DPTH TO ♀: N/A FT.	
LOGGED BY: S. Consalvi		WELL DEVELOPMENT DATE: N/A				SITE: 6 - Trans. Oil Disposal Area	



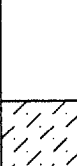
DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
(0-2')		16/24	250	SILTY SAND: Dark yellowish brown, fine, well sorted. CLAYEY SAND: Moderate red brown, fine, well sorted.		SM SC	2,5,5,5	
(5-7')		12/24	0	SILTY SAND: Moderate reddish brown, fine.		SM	4,4,3,4	
(10-12')		16/24	0	SAA.		SM	4,7,7,12	
		14/24	0	SILTY CLAY: Moderate reddish brown to dusky yellow, pale grey mottling.		CL	---	
		14/24	0	SAND: White, moderate orange pink mottling.		SM	---	

TITLE: NAVAL AIR STATION WHITING FIELD				LOG of WELL: N/A		BORING NO. WHF-17-SB-01	
CLIENT: SOUTHNAVFACENGCOM						PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.				DATE STARTED: 01/19/93		COMPLTD: 01/19/93	
METHOD: HSA		CASE SIZE: N/A		SCREEN INT.: N/A		PROTECTION LEVEL: D	
TOC ELEV.: N/A FT.		MONITOR INST.: OVA		TOT DPTH: 17FT.		DPTH TO ∇ N/A FT.	
LOGGED BY: B. Colby		WELL DEVELOPMENT DATE: N/A				SITE: 17 - Crash Training Area	




DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
5	(5-7')	15/24	20	CLAYEY SAND: Reddish brown, fine, some gravel.		SC	2,7,11,13	POSTHOLE
10		24/24	< 1	SILTY SAND: Reddish brown, fine, well sorted.		SM	3,9,8,9	
15	(15-17')	18/24	< 1	SAA.		SM	6,13,13,12	
20								
25								
30								
35								
40								

TITLE: NAVAL AIR STATION WHITING FIELD				LOG of WELL: N/A		BORING NO. WHF-17-SB-02	
CLIENT: SOUTHNAVFACENGCOM						PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.				DATE STARTED: 01/19/93		COMPLTD: 01/19/93	
METHOD: HSA		CASE SIZE: N/A		SCREEN INT.: N/A		PROTECTION LEVEL: D	
TOC ELEV.: N/A FT.		MONITOR INST.: OVA		TOT DPTH: 12FT.		DPTH TO ȳ N/A FT.	
LOGGED BY: B. Colby		WELL DEVELOPMENT DATE: N/A				SITE: 17 - Crash Training Area	





DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
5	(5-7")		20/24	< 1	CLAYEY SAND: Reddish brown, fine, trace gravel.		SC	2,6,15,14	
10	(10-12")		20/24	< 1	SILTY SAND: Reddish brown, fine, well rounded.		SM	6,13,19,26	
15									
20									
25									
30									
35									
40									

TITLE: NAVAL AIR STATION WHITING FIELD				LOG of WELL: N/A		BORING NO. WHF-17-SB-03	
CLIENT: SOUTHNAVFACENGCOM						PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.				DATE STARTED: 01/07/93		COMPLTD: 01/07/93	
METHOD: HSA		CASE SIZE: N/A		SCREEN INT.: N/A		PROTECTION LEVEL: D	
TOC ELEV.: N/A FT.		MONITOR INST.: OVA		TOT DPTH: 12FT.		DPTH TO ♀: N/A FT.	
LOGGED BY: D. Lonergan		WELL DEVELOPMENT DATE: N/A				SITE: 17 - Crash Training Area	
DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN
0			0	SILTY SAND: Red, fine, trace clay.		SM	POSTHOLE
5		05/24	0	CLAYEY SILT: Red, dense.		ML	PUSHED
10	(10-12")	24/24	0	SILTY SAND: Red, trace clay.		SM	PUSHED
15							
20							
25							
30							
35							
40							

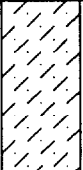



TITLE: NAVAL AIR STATION WHITING FIELD		LOG of WELL: N/A	BORING NO. WHF-17-SB-04
CLIENT: SOUTHNAVFACENGCOM		PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 01/07/93	COMPLTD: 01/07/93
METHOD: HSA	CASE SIZE: N/A	SCREEN INT.: N/A	PROTECTION LEVEL: D
TOC ELEV.: N/A FT.	MONITOR INST.: OVA	TOT DPTH: 12FT.	DPTH TO ∇ N/A FT.
LOGGED BY: D. Lonergan	WELL DEVELOPMENT DATE: N/A		SITE: 17 - Crash Training Area

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
30					SILTY SAND: Red, fine, trace clay.		SM	POSTHOLE	
5 (5-7')			24/24	0	CLAYEY SILT: Red, dense.		ML	PUSHED	
10 (10-12')			24/24	0	SILTY SAND: Red, trace clay.		SM	PUSHED	
15									
20									
25									
30									
35									
40									

TITLE: NAVAL AIR STATION WHITING FIELD		LOG of WELL: N/A		BORING NO. WHF-17-SB-05	
CLIENT: SOUTHNAVFACENGCOM				PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.			DATE STARTED: 01/19/93		COMPLTD: 01/19/93
METHOD: HSA		CASE SIZE: N/A		SCREEN INT.: N/A	
TOC ELEV.: N/A FT.		MONITOR INST.: OVA		TOT DPTH: 22FT.	
LOGGED BY: B. Colby		WELL DEVELOPMENT DATE: N/A			SITE: 17 - Crash Training Area

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
							POSTHOLE	
5	(5-7')	24/24	60	SANDY CLAY: Brown, mediu(n) plasticity, grey streaks, slight odor.		CL	3,2,3,7	
10	(10-12')	24/24	62	SAA.		CL	1,3,6,10	
15		24/24	2	SAA, litho change at 15.5' to SAND: reddish brown to white, fine, well rounded.		CL SP	6,8,14,15	
20	(20-22')	24/24	0	SAND: Reddish brown to white interbedded, fine, well rounded.		SP	9,14,17,21	
25								
30								
35								
40								

TITLE: NAVAL AIR STATION WHITING FIELD				LOG of WELL: N/A		BORING NO. WHF-17-SB-06	
CLIENT: SOUTHNAVFACENGCOM						PROJECT NO: R1 PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.				DATE STARTED: 01/07/93		COMPLTD: 01/07/93	
METHOD: HSA		CASE SIZE: N/A		SCREEN INT.: N/A		PROTECTION LEVEL: D	
TOC ELEV.: N/A FT.		MONITOR INST.: OVA		TOT DPTH: 17FT.		DPTH TO ∇ N/A FT.	
LOGGED BY: D. Lonergan		WELL DEVELOPMENT DATE: N/A				SITE: 17 - Crash Training Area	




DEPTH F.T.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
5 (5-7') 10 (10-12') 15 20 25 30 35 40			500	SILTY SAND: Brown, grey stained, heavy odor.		SM	POSTHOLE	
		19/24	20	CLAYEY SILT: Red and tan, black mottled.		ML	5,7,14,15	
		18/24	0	SILTY SAND: Orange red, fine.		SM	9,13,12,15	
		16/24	0	SAA, orange pink, some coarse.		SM	18,18,25,25	

TITLE: NAVAL AIR STATION WHITING FIELD				LOG of WELL: N/A		BORING NO. WHF-17-SB-07	
CLIENT: SOUTHNAVFACENGCOM						PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.				DATE STARTED: 01/18/93		COMPLTD: 01/18/93	
METHOD: HSA		CASE SIZE: N/A		SCREEN INT.: N/A		PROTECTION LEVEL: D	
TOC ELEV.: N/A FT.		MONITOR INST.: OVA		TOT DPTH: 17FT.		DPTH TO ▽: N/A FT.	
LOGGED BY: B. Colby		WELL DEVELOPMENT DATE: N/A				SITE: 17 - Crash Training Area	
DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN
			3.5				POSTHOLE
5	(5-7')	16/24	2	SANDY CLAY: Olive to reddish brown, medium plasticity.		CL	2,5,8,12
10		18/24	0	SAND: Reddish brown, fine, well sorted.		SP	2,6,6,8
15	(15-17')	15/24	0	SAND: White, red interbeds, fine to medium, well sorted, well rounded.		SP	3,8,11,17
20							
25							
30							
35							
40							

TITLE: NAVAL AIR STATION WHITING FIELD				LOG of WELL: N/A		BORING NO. WHF-17-SB-08	
CLIENT: SOUTHNAVFACENGCOM						PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.				DATE STARTED: 01/18/93		COMPLTD: 01/18/93	
METHOD: HSA		CASE SIZE: N/A		SCREEN INT.: N/A		PROTECTION LEVEL: D	
TOC ELEV.: N/A FT.		MONITOR INST.: OVA		TOT DPTH: 12FT.		DPTH TO ∇: N/A FT.	
LOGGED BY: B. Colby		WELL DEVELOPMENT DATE: N/A				SITE: 17 - Crash Training Area	

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
5	(5-7')	24/24	3.5	CLAY: Brown, medium plasticity.		CL	2,5,6,12	
10	(10-12')	12/24	0	SAND: Reddish brown, fine, well sorted.		SP	6,7,7,8	
15								
20								
25								
30								
35								
40								




TITLE: NAVAL AIR STATION WHITING FIELD		LOG of WELL: N/A		BORING NO. WHF-17-SB-09	
CLIENT: SOUTHNAVFACENGCOM				PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.			DATE STARTED: 01/06/93		COMPLTD: 01/06/93
METHOD: HSA		CASE SIZE: N/A	SCREEN INT.: N/A		PROTECTION LEVEL: D
TOC ELEV.: N/A FT.		MONITOR INST.: OVA	TOT DPTH: 12FT.		DPTH TO ∇ N/A FT.
LOGGED BY: D. Lonergan		WELL DEVELOPMENT DATE: N/A			SITE: 17 - Crash Training Area

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
(0-2')				0	SILTY SAND: Brown, fine.		SM		POSTHOLE
5			23/24	0	CLAYEY SILT: Red and tan mottled, trace clay, well sorted, tight.		ML	9,12,15,20	
10									
(10-12')			22/24	0	SAA, no mottling.		ML	8,11,13,17	
15									
20									
25									
30									
35									
40									






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CLIENT: SOUTHNAVFACENGCOM				PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.			DATE STARTED: 01/18/93		COMPLTD: 01/18/93
METHOD: HSA		CASE SIZE: N/A		SCREEN INT.: N/A	
TOC ELEV.: N/A FT.		MONITOR INST.: OVA		TOT DPTH: 12FT.	
LOGGED BY: B. Colby		WELL DEVELOPMENT DATE: N/A			SITE: 17 - Crash Training Area

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
5			24/24	0	CLAYEY SAND: Reddish brown to reddish white, fine.		SC	6,10,13,7	
10			15/24	0	SILTY SAND: Reddish brown, fine, well sorted, reddish white interbedded.		SM	8,10,13,16	
15									
20									
25									
30									
35									
40									











TITLE: NAVAL AIR STATION WHITING FIELD		LOG of WELL: N/A		BORING NO. WHF-18-SB-01	
CLIENT: SOUTHNAVFACENGCOM				PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.			DATE STARTED: 01/05/93		COMPLTD: 01/05/93
METHOD: HSA		CASE SIZE: N/A		SCREEN INT.: N/A	
TOC ELEV.: N/A FT.		MONITOR INST.: OVA		TOT DPTH: 12FT.	
LOGGED BY: D. Lonergan		WELL DEVELOPMENT DATE: N/A			SITE: 18 - Crash Training Area

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
				0	SAND: Red brown, fine, silt.		SM		POSTHOLE
5	(5-7")		19/24	0	SAA.		SM	2,3,2,3	
10	(10-12")		20/24	0	SAA, tan to brown.		SM	2,3,4,4	
15									
20									
25									
30									
35									
40									

TITLE: NAVAL AIR STATION WHITING FIELD		LOG of WELL: N/A		BORING NO. WHF-18-SB-02	
CLIENT: SOUTHNAVFACENGCOM				PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.			DATE STARTED: 01/05/93		COMPLTD: 01/05/93
METHOD: HSA		CASE SIZE: N/A		SCREEN INT.: N/A	
TOC ELEV.: N/A FT.		MONITOR INST.: OVA		PROTECTION LEVEL: D	
LOGGED BY: D. Lonergan		TOT DPTH: 22FT.		DPTH TO ∇: N/A FT.	
WELL DEVELOPMENT DATE: N/A			SITE: 18 - Crash Training Area		

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
0				0	SILTY SAND: Red brown, fine, silt.		SM		POSTHOLE
5	(5-7')		17/24	0	SAND: Light brown, fine, silt.		SM	2,3,3,5	
10	(10-12')		18/24	11	SAND: Pink to red, fine to medium, silt, slight odor.		SM	3,5,5,7	
15	(15-17')		19/24	0	SAND: Red to red brown, medium, trace silt.		SP	7,8,13,17	
20	(20-22')		17/24	0	SAND: White, medium to coarse, red striations.		SP	8,8,6,7	
25									
30									
35									
40									

TITLE: NAVAL AIR STATION WHITING FIELD				LOG of WELL: N/A		BORING NO. WHF-18-SB-04	
CLIENT: SOUTHNAVFACENGCOM						PROJECT NO: R1 PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.				DATE STARTED: 01/06/93		COMPLTD: 01/06/93	
METHOD: HSA		CASE SIZE: N/A		SCREEN INT.: N/A		PROTECTION LEVEL: D	
TOC ELEV.: N/A FT.		MONITOR INST.: OVA		TOT DPTH: 42FT.		DPTH TO ▽: N/A FT.	
LOGGED BY: D. Lonergan		WELL DEVELOPMENT DATE: N/A				SITE: 18 - Crash Training Area	

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
			12	SAND: Brown, fine, silt.		SM		POSTHOLE
5	(5-7')	19/24	35	SAA.		SM	3,6,8,9	
10	(10-12')	22/24	6	SILTY SAND: Pink to white, fine.		SC	9,17,20,22	
15	(15-17')	19/24	25	SAA.		SM	11,18,25,29	
20		20/24	10	CLAYEY SAND: Pink and brown striated, trace clay.		SC	14,14,12,13	
25	(25-27')	19/24	4	CLAYEY SILT: Red brown, well sorted.		ML	6,11,15,14	
30		22/24	0	SAA, pink to grey.		ML	3,4,5,9	
35	(35-37')	23/24	0	SAA,litho change at 36' SAND: orange white, fine to medium, trace gravel.		ML	12,19,30,33	
						SP		
40	(40-42')	22/24	0	CLAYEY SILT: Red to pink, slightly moist.		ML	2,2,3,5	
45								

TITLE: NAVAL AIR STATION WHITING FIELD				LOG of WELL: N/A		BORING NO. WHF-18-SB-06	
CLIENT: SOUTHNAVFACENGCOM						PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.				DATE STARTED: 01/05/93		COMPLTD: 01/05/93	
METHOD: HSA		CASE SIZE: N/A		SCREEN INT.: N/A		PROTECTION LEVEL: D	
TOC ELEV.: N/A FT.		MONITOR INST.: OVA		TOT DPTH: 27FT.		DPTH TO ∇ N/A FT.	
LOGGED BY: D. Lonergan		WELL DEVELOPMENT DATE: N/A				SITE: 18 - Crash Training Area	

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
5	(5-7')	17/24	150	SILTY SAND: Grey to black, stained.		SM	POSTHOLE	
7			70	SAND: Grey to tan, fine to medium, trace silt.		SP	5,4,4,7	
10	(10-12')	18/24	630	SILTY SAND: Grey to white, pink hue, fine, stained.		SM	6,11,18,21	
15	(15-17')	19/24	300	SAND: White to pink, fine to medium, trace silt.		SP	13,17,21,20	
20	(20-22')	19/24	0	SAND: Orange white, medium, pink striated, trace silt, slightly moist.		SP	23,30,32,42	
25		17/24	0	SAND: White to grey, fine, silt, no odor.		SM	28,25,27,33	
30								
35								
40								





TITLE: NAVAL AIR STATION WHITING FIELD		LOG of WELL: N/A		BORING NO. WHF-18-SB-07	
CLIENT: SOUTHNAVFACENGCOM				PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.			DATE STARTED: 01/05/93		COMPLTD: 01/05/93
METHOD: HSA		CASE SIZE: N/A		SCREEN INT.: N/A	
TOC ELEV.: N/A FT.		MONITOR INST.: OVA		TOT DPTH: 17FT.	
LOGGED BY: D. Lonergan		WELL DEVELOPMENT DATE: N/A			SITE: 18 - Fire Training

DEPTH FT.	LABORATORY SAMPLE ID.	RECOVERY HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
			0 SILTY SAND: Light brown, no smell, staining.		SM		POSTHOLE
5 (5-7')	18/24	0	SAND: Red brown, medium, trace silt.		SP	2,3,2,4	
10	18/24	0	SAND: Reddish brown, medium to coarse.		SP	3,6,7,9	
15 (15-17')	20/24	0	SAND: Red brown to white striated, fine, silt.		SM	6,10,13,15	
20							
25							
30							
35							
40							





TITLE: NAVAL AIR STATION WHITING FIELD		LOG of WELL: N/A		BORING NO. WHF-18-SB-08	
CLIENT: SOUTHNAVAFACENGCOM				PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.			DATE STARTED: 01/04/93		COMPLTD: 01/04/93
METHOD: HSA		CASE SIZE: N/A		SCREEN INT.: N/A	
TOC ELEV.: N/A FT.		MONITOR INST.: OVA		TOT DPTH: 27FT.	
LOGGED BY: D. Lonergan		WELL DEVELOPMENT DATE: N/A			SITE: 18 - Crash Training Area

DEPTH F.T.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
5	(5-7')		18/24	9	SAND: Light to dark brown, fine, silt, poorly graded, heavy diesel odor.		SM	Hand Auger	
10	(10-12')		20/24	35	SAND: Light brown, medium to coarse, heavy diesel odor, wet, litho change at 11 ft. to tan mottled silty clay graded to clay.		SP CL	4,5,4,5	12,14,19,18
15	(15-17')		18/24	40	SAND: White, medium to coarse, 1" stained layer at top with a diesel odor.		SP	17,19,21,24	
20			19/24	0	SAND: Orange and white striations, medium, trace silt, no odor.		SP	7,11,18,23	
25			14/24	0	SAND: Orange and white striations, medium to coarse, no odor.		SP	5,9,16,20	
30									
35									
40									

TITLE: NAVAL AIR STATION WHITING FIELD				LOG of WELL: N/A		BORING NO. WHF-18-SB-09	
CLIENT: SOUTHNAVAFACENGCOM						PROJECT NO: R1 PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.				DATE STARTED: 01/05/93		COMPLTD: 01/05/93	
METHOD: HSA		CASE SIZE: N/A		SCREEN INT.: N/A		PROTECTION LEVEL: D	
TOC ELEV.: N/A FT.		MONITOR INST.: OVA		TOT DPTH: 17FT.		DPTH TO ▽: N/A FT.	
LOGGED BY: D. Lonergan		WELL DEVELOPMENT DATE: N/A				SITE: 18 - Crash Training Area	

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
				0	SAND: Tan to brown, fine, silt.		SM		
5	(5-7')		18/24	0	SAA, red brown.		SM	3,4,3,5	
10			20/24	0	SAND: Red to pink, fine to medium, white striated.		SM	5,6,9,10	
15	(15-17')		18/24	0	SAA.		SM	5,9,14,16	
20									
25									
30									
35									
40									

TITLE: NAVAL AIR STATION WHITING FIELD				LOG of WELL: N/A		BORING NO. WHF-18-SB-10	
CLIENT: SOUTHNAVFACENGCOM						PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.				DATE STARTED: 01/04/93		COMPLTD: 01/04/93	
METHOD: HSA		CASE SIZE: N/A		SCREEN INT.: N/A		PROTECTION LEVEL: 0	
TOC ELEV.: N/A FT.		MONITOR INST.: OVA		TOT DPTH: 17FT.		DPTH TO ▽: N/A FT.	
LOGGED BY: D. Lonergan		WELL DEVELOPMENT DATE: N/A				SITE: 18 - Crash Training Area	

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
				0	SAND: Light brown, fine.		SP		
5	(5-7")		18/24	0	SAND: Light brown to brownish orange, fine, some silt & clay.		SC	2,5,9,14	
10			14/24	0	SAND: White to orange, fine, slightly moist.		SP	5,10,15,18	
15			14/24	0	SAND: White to reddish orange, fine to medium.		SP	4,7,12,17	
20									
25									
30									
35									
40									

TITLE: NAVAL AIR STATION WHITING FIELD				LOG of WELL: N/A		BORING NO. WHF-29-SB-1	
CLIENT: SOUTHNAVFACENGCOM						PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.				DATE STARTED: 01/07/93		COMPLTD: 01/09/93	
METHOD: HSA		CASE SIZE: N/A		SCREEN INT.: N/A		PROTECTION LEVEL: 0	
TOC ELEV.: N/A FT.		MONITOR INST.: OVA		TOT DPTH: 137FT.		DPTH TO ▽: 137 FT.	
LOGGED BY: G. Walker		WELL DEVELOPMENT DATE: N/A				SITE: 29 - Hobby Shop	

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
(0-2')			0	SAND: Moderate brown, fine to medium, trace silt, poorly sorted, moist.		SP		Hand Auger
5	(5-7')	22/24	0	SAND: Grey orange, fine to medium, well sorted, moist.		SW		Push
10		08/24	0	CLAY: Pale orange, dry, tight.		CL		Push
15		06/24	0	SAND: Moderate red orange to pale orange, medium, well sorted, moist.		SW		Push
20		06/24	0	SAND: Pale yellow orange, fine to medium, well sorted, dry.		SW		Spin
25		08/24	0	SAA, moderate orange pink.		SW		Spin
30		04/24	2	SAA, very pale orange.		SW		Spin
35		10/24	< 1	SAA.		SW		Spin
40						SW		





TITLE: NAVAL AIR STATION WHITING FIELD		LOG of WELL: N/A		BORING NO. WHF-29-SB-1	
CLIENT: SOUTHNAVFACENGCOM				PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.			DATE STARTED: 01/07/93		COMPLTD: 01/09/93
METHOD: HSA		CASE SIZE: N/A		SCREEN INT.: N/A	
TOC ELEV.: N/A FT.		MONITOR INST.: OVA		TOT DPTH: 137FT.	
LOGGED BY: G. Walker		WELL DEVELOPMENT DATE: N/A		SITE: 29 - Hobby Shop	
PROTECTION LEVEL: D		DEPTH TO 137 FT.			

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
Continued from PAGE 1								
		09/24	0	SAA.		SW	Spin	
45		08/24	< 1	SAA, 4" lens of sandy clay.		SW	Spin	
50		22/24	0	SAA, pale yellow orange.		SW	20,23,34,37	
55		18/24	0	SAA, very pale orange.		SW	10,10,14,17	
60	(60-62)	18/24	0	SAA, 3" clayey sand lens.		SW	20,27,22,22	
65		24/24	< 1	SAND: Pale orange, fine to medium, trace silt, poorly sorted, moist.		SP	28,26,29,28	
70		24/24	0	SAA, sharp contact to fine clayey sand.		SW	17,24,42,58	
75		24/24	1.5	SAND: Very pale orange, medium to coarse, poorly sorted, dry.		SP	17,19,24,31	
80						SP		

TITLE: NAVAL AIR STATION WHITING FIELD		LOG of WELL: N/A		BORING NO. WHF-29-SB-1	
CLIENT: SOUTHNAVFACENGCOM				PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.			DATE STARTED: 01/07/93		COMPLTD: 01/09/93
METHOD: HSA		CASE SIZE: N/A		SCREEN INT.: N/A	
TOC ELEV.: N/A FT.		MONITOR INST.: OVA		TOT DPTH: 137 FT.	
LOGGED BY: G. Walker		WELL DEVELOPMENT DATE: N/A			SITE: 29 - Hobby Shop




DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
Continued from PAGE 2								
		22/24	0	SAA.		SP	15,22,25,35	
85		22/24	< 1	SAND: Very pale orange, fine to medium, well sorted, dry.		SW	9,12,21,24	
90		18/24	2	SAA, 4" lens of fine to medium sand, abrupt contact to very, pale orange coarse sand.		SW	5,14,26,29	
95		16/24	0	SAND: Very pale orange, medium to coarse, well sorted, dry.		SW	7,14,27,30	
100		24/24	0	SAA.		SW	18,33,43,60	
105		24/24	0	SAA, mottled moderate red orange.		SW	-----	
110		24/24	0	SAA, very pale orange.		SW	-----	
115		22/24	0	SAA.		SW	-----	
120						SW		

TITLE: NAVAL AIR STATION WHITING FIELD		LOG of WELL: N/A	BORING NO. WHF-29-SB-1
CLIENT: SOUTHNAVFACENGCOM		PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 01/07/93	COMPLTD: 01/09/93
METHOD: HSA	CASE SIZE: N/A	SCREEN INT.: N/A	PROTECTION LEVEL: D
TOC ELEV.: N/A FT.	MONITOR INST.: OVA	TOT DPTH: 137 FT.	DPTH TO ∇ 137 FT.
LOGGED BY: G. Walker	WELL DEVELOPMENT DATE: N/A		SITE: 29 - Hobby Shop

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
Continued from PAGE 3								
		24/24	0	SAA.		SW	-----	
125	(125-127)	24/24	0	SAA.		SW	-----	
130		23/24	0	SAND: Very pale orange, medium to coarse, well sorted, wet.		SW	21,26,33,36	
135		24/24	0	SAA, saturated.		SW	8,12,14,14	
140								
145								
150								
155								
160								

TITLE: NAVAL AIR STATION WHITING FIELD				LOG of WELL: N/A		BORING NO. WHF-29-SB-2	
CLIENT: SOUTHNAVFACENGCOM						PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.				DATE STARTED: 01/06/93		COMPLTD: 01/06/93	
METHOD: HSA		CASE SIZE: N/A		SCREEN INT.: N/A		PROTECTION LEVEL: D	
TOC ELEV.: N/A FT.		MONITOR INST.: OVA		TOT DPTH: 14FT.		DPTH TO ∇: N/A FT.	
LOGGED BY: G. Walker		WELL DEVELOPMENT DATE: N/A				SITE: 29 - Hobby Shop	


















DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
(0-2')				< 1	SAND: Dark yellowish orange, fine to medium, well sorted, subangular, moist.		SW		Hand Auger
5			14/24	0	SAA.		SW		
10			2/24	0	CLAY: Dark yellowish orange, very fine, trace sand, hard, mottled, dry.		CL		12,14,21,45
(12-14')			22/24	0	SAA.				15,22,35,35
15									
20									
25									
30									
35									
40									

TITLE: NAVAL AIR STATION WHITING FIELD				LOG of WELL: N/A		BORING NO. WHF-29-SB-3	
CLIENT: SOUTHNAVFACENGCOM						PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.				DATE STARTED: 01/06/93		COMPLTD: 01/06/93	
METHOD: HSA		CASE SIZE: N/A		SCREEN INT.: N/A		PROTECTION LEVEL: D	
TOC ELEV.: N/A FT.		MONITOR INST.: OVA		TOT DPTH: 12FT.		DPTH TO ∇ N/A FT.	
LOGGED BY: G. Walker		WELL DEVELOPMENT DATE: N/A				SITE: 29 - Hobby Shop	
DEPTH F.T.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN
(0-2')			0	SAND: Fine to medium, well sorted, subangular, moist.		SW	Hand Auger
5		20/24	0	SAND: Greyish orange, fine to medium, trace clay, poorly sorted, sub- angular, moist.		SC	-,-,-,-
10	(10-12')	18/24	0	SAA.		SC	-,-,-,-
15							
20							
25							
30							
35							
40							

TITLE: NAVAL AIR STATION WHITING FIELD				LOG of WELL: N/A		BORING NO. WHF-29-SB-4	
CLIENT: SOUTHNAVFACENGCOM						PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.				DATE STARTED: 01/06/93		COMPLTD: 01/06/93	
METHOD: HSA		CASE SIZE: N/A		SCREEN INT.: N/A		PROTECTION LEVEL: D	
TOC ELEV.: N/A FT.		MONITOR INST.: OVA		TOT DPTH: 17FT.		DPTH TO ∇: N/A FT.	
LOGGED BY: G. Walker		WELL DEVELOPMENT DATE: N/A				SITE: 29 - Hobby Shop	

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
(0-2')			< 1	SAND: Moderate brown, fine to medium, well sorted, subrounded, moist, petroleum odor.		SW		Hand Auger
5 (5-7')		18/24	220	SAND: Dark yellowish brown to moderate yellowish brown, very fine to medium, trace clay, poorly sorted, moist.		SP		4,4,3,3
10		17/24	1	CLAY: Greyish orange, fine, tight and moist, litho change at 10.5' to very pale orange tight clay.		CL		4,18,15,20
15 (15-17')		22/24	1.5	SAA, litho change at 16' to very fine to medium sand, subangular, moist.		SP		7,12,14,10
20								
25								
30								
35								
40								

TITLE: NAVAL AIR STATION WHITING FIELD				LOG of WELL: N/A		BORING NO. WHF--30-SB-1	
CLIENT: SOUTHNAVFACENGCOM						PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.				DATE STARTED: 12/06/92		COMPLTD: 12/08/92	
METHOD: HSA		CASE SIZE: N/A		SCREEN INT.: N/A		PROTECTION LEVEL: D	
TOC ELEV.: N/A FT.		MONITOR INST.: OVA		TOT DPTH: 122FT.		DPTH TO ▽ N/A FT.	
LOGGED BY: S. Consalvi		WELL DEVELOPMENT DATE: N/A				SITE: 30 - Southfield Hangar	

DEPTH F.T.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
	(2-4)		8	SANDY SILT: Reddish brown, petroleum odor.		ML	POSTHOLE	
			.2	SILTY CLAY: Greyish red, trace sand & gravel, could be fill.		CL	2,2,2,8	
5	(5-7')		20/24	2	SAA, moderate red brown mottling.		CL	3,2,2,3
10	(10-12')		--/24	30	SAND: Light brown to pale yellow orange, moderate orange pink stripes, fine, strong musty odor.		SP	6,6,8,10
15	(15-17')		18/24	16	SAND: Moderate red to pale yellow orange to grayish pink, strong musty odor.		SP	8,13,16,24
20			16/24	22	SAND: Moderate red to grayish pink, strong musty odor, upgraded of protection necessary.		SP	8,10,12,16
25			18/24	2	SAND: Pale yellow orange, very pale yellow orange striping, fine.		SP	14,11,9,11
30			16/24	6	SAA, color change to very pale yellow orange, yellow orange streaking.		SP	10,12,14,12
35	(35-37')		14/24	-	SAA, color change last 4" white.		SP	12,20,24,26
40						SP		

TITLE: NAVAL AIR STATION WHITING FIELD		LOG of WELL: N/A	BORING NO. WHF-30-SB-1
CLIENT: SOUTHNAVFACENGCOM			PROJECT NO: RI PHASE IIA
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 12/06/92	COMPLTD: 12/08/92
METHOD: HSA	CASE SIZE: N/A	SCREEN INT.: N/A	PROTECTION LEVEL: 0
TOC ELEV.: N/A FT.	MONITOR INST.: OVA	TOT DPTH: 122FT.	DPTH TO ▽: N/A FT.
LOGGED BY: S. Consalvi	WELL DEVELOPMENT DATE: N/A		SITE: 30 - Southfield Hangar

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
Continued from PAGE 1								
		11/24	2	SAA, pink to pale yellowish orange.		SP	29,12,6,6	
45		18/24	3	CLAYEY SAND: Pink, moderate red mottling.		SC	10,9,7,9	
50		18/24	6	SAND: Pale pinkish white, fine.		SC CL	8,8,6,8	
55		16/24	3	SAND: Greyish pink, fine.		SP	19,30,36,28	
60	(60-62)	20/24	0	SAA.		SP	16,22,26,16	
65		19/24	2.5	SAA, white, moderate red stripes in first 4".		SP	16,18,21,22	
70		16/24	5	SAA.		SP	14,18,25,26	
75		14/24	7.5	SAA.		SP	14,18,25,46	
80						SP		

TITLE: NAVAL AIR STATION WHITING FIELD		LOG of WELL: N/A	BORING NO. WHF-30-SB-1
CLIENT: SOUTHNAVFACENGCOM		PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 12/06/92	COMPLTD: 12/08/92
METHOD: HSA	CASE SIZE: N/A	SCREEN INT.: N/A	PROTECTION LEVEL: D
TOC ELEV.: N/A FT.	MONITOR INST.: OVA	TOT DPTH: 122FT.	DPTH TO ∇ N/A FT.
LOGGED BY: S. Consalvi	WELL DEVELOPMENT DATE: N/A		SITE: 30 - Southfield Hangar

DEPTH FT.	LABORATORY SAMPLE ID.	RECOVERY SAMPLE	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
Continued from PAGE 2								
		18/24	1.8	SAA, trace black grains.		SP	27,24,27,24	
85		18/24	10	SAA.		SP	14,18,29,24	
90		18/24	< 1	SAND: Dark red to yellow orange, fine to medium, trace clay, moist.		SP	13,15,19,22	
95		18/24	0	SAND: White to yellow orange, fine to medium.		SP	13,17,14,16	
100		10/24	1.2	SAA.		SP	29,13,13,12	
105		16/24	0	SAND: Very pale orange to light brown striped, fine, one moderate red clay nodule.		SP	-----	
110		17/24	1	SAA, greyish orange pink, very thin lenses of sand mixed with black grains.		SP	-----	
115		14/24	1	SAA, very light grey, trace black specs throughout, moist.		SP	-----	
120						ML		

TITLE: NAVAL AIR STATION WHITING FIELD		LOG of WELL: N/A	BORING NO. WHF-30-SB-1
CLIENT: SOUTHNAVFACENGCOM		PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 12/06/92	COMPLTD: 12/08/92
METHOD: HSA	CASE SIZE: N/A	SCREEN INT.: N/A	PROTECTION LEVEL: D
TOC ELEV.: N/A FT.	MONITOR INST.: OVA	TOT DPTH: 122FT.	DPTH TO ∇: N/A FT.
LOGGED BY: S. Consalvi	WELL DEVELOPMENT DATE: N/A		SITE: 30 - Southfield Hangar

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
Continued from PAGE 3									
			18/24	2.5	CLAYEY SILT: dark yellow orange with grey clay mottling and streaking, dry.		ML	-----	
125									
130									
135									
140									
145									
150									
155									
160									

TITLE: NAVAL AIR STATION WHITING FIELD		LOG of WELL: N/A	BORING NO. WHF-30-SB-02
CLIENT: SOUTHNAVFACENGCOM			PROJECT NO: RI PHASE IIA
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 01/04/93	COMPLTD: 01/04/93
METHOD: HSA	CASE SIZE: N/A	SCREEN INT.: N/A	PROTECTION LEVEL: D
TOC ELEV.: N/A FT.	MONITOR INST.: OVA	TOT DPTH: 22FT.	DPTH TO ∇ N/A FT.
LOGGED BY: G. Walker	WELL DEVELOPMENT DATE: N/A		SITE: 30 - Southfield Hangar

DEPTH FT.	LABORATORY SAMPLE ID.	RECOVERY HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
(0-2')		30	SAND: Moderate reddish brown, medium, well sorted, subrounded, with litho change at 6" to SAND: fine, yellow brown, trace clay, petroleum stained.		SP	Hand Auger	
5		03/24 32	SAND: Light brown, fine to medium, trace clay, subangular.		SP	2,2,2,1	
10		18/24 6.8	SAND: Light brown, fine to medium, subrounded, well sorted.		SW	5,8,9,8	
15		24/24 4.8	SAA.		SW	7,13,22,27	
20		24/24 3	SAA.		SW	- ,22,42,45	
(20-22)							
25							
30							
35							
40							

TITLE: NAVAL AIR STATION WHITING FIELD		LOG of WELL: N/A		BORING NO. WHF-30-SB-3	
CLIENT: SOUTHNAVFACENGCOM				PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.			DATE STARTED: 01/04/93		COMPLTD: 01/04/93
METHOD: HSA		CASE SIZE: N/A		SCREEN INT.: N/A	
TOC ELEV.: N/A FT.		MONITOR INST.: OVA		TOT DPTH: 17FT.	
LOGGED BY: G. Walker		WELL DEVELOPMENT DATE: N/A			SITE: 30 - Southfield Hangar

DEPTH F.T.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
(0-2')			40	SAND: Light brown, very fine to medium, trace silt, well graded.		SP	Hand Auger	
5		20/24	0	SAA.		SP	4,3,5,8	
(10-12')		14/24	< 1	SAND: Light brown, fine to medium, subrounded, poorly graded, moist.		SW	4,8,7,7	
15		24/24	0	SAND: Light brown, medium to coarse, poorly graded, subrounded, moist.		SW	7,10,15,19	
20								
25								
30								
35								
40								

TITLE: NAVAL AIR STATION WHITING FIELD				LOG of WELL: N/A		BORING NO. WHF-30-SB-4			
CLIENT: SOUTHNAVFACENGCOM						PROJECT NO: RI PHASE IIA			
CONTRACTOR: Groundwater Protection Inc.				DATE STARTED: 01/04/93		COMPLTD: 01/04/93			
METHOD: HSA		CASE SIZE: N/A		SCREEN INT.: N/A		PROTECTION LEVEL: D			
TOC ELEV.: N/A FT.		MONITOR INST.: OVA		TOT DPTH: 7FT.		DPTH TO ∇ N/A FT.			
LOGGED BY: G. Walker		WELL DEVELOPMENT DATE: N/A				SITE: 30 - Southfield Hangar			
DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
(0-2')				82	SAND: Pale yellowish brown, fine to medium, trace clay, petroleum odor.	---	SC		Hand Auger
(5-7')			24/24	200	SAND: Light brown, fine to medium, trace clay, subrounded, well graded, petroleum odor, litho change at 6.5' to SAND: reddish brown, fine to medium, trace clay, non-plastic.	---	SC	1,1,2,2	
					NOTE: AUGER REFUSAL AT 6.5 FT, BORING LOCATION WAS MOVED 1.5 FT. EAST OF THE TANK. FUTHER SOIL DESCRIPTIONS ARE DETAILED IN SOIL BORING WHF-30-SB-04 A.				

TITLE: NAVAL AIR STATION WHITING FIELD				LOG of WELL: N/A		BORING NO. WHF-30-SB-4 A	
CLIENT: SOUTHNAVFACENGCOM						PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.				DATE STARTED: 01/05/93		COMPLTD: 01/05/93	
METHOD: HSA		CASE SIZE: N/A		SCREEN INT.: N/A		PROTECTION LEVEL: D	
TOC ELEV.: N/A FT.		MONITOR INST.: OVA		TOT DPTH: 27FT.		DPTH TO ▽ N/A FT.	
LOGGED BY: G. Walker		WELL DEVELOPMENT DATE: N/A				SITE: 30 - Southfield Hangar	

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
				NOTE: BORING LOCATION WAS MOVED 1.5 FT. EAST OF THE TANK DUE TO AUGER REFUSAL AT 6.5 FT. ON LOCATION WHF-30-SB-04.		SW		Rig Auger
				SAND: Moderate reddish brown, medium to coarse, poorly graded, sub- rounded.				Rig Auger
5								
10	(10-12')	24/24	10	SAA.			6,12,12,15	
15	(15-17')	24/24	40	SAND: Greyish orange, fine to coarse, subrounded, musty odor, dry.		SP	7,17,24,30	
20		22/24	5	SAA, no odor.		SP	15,22,25,30	
25	(25-27')	16/24	0	SAND: Greyish orange pink, coarse, subrounded, dry, no odor.		SP	7,17,15,17	
30								
35								
40								

TITLE: NAVAL AIR STATION WHITING FIELD				LOG of WELL: N/A		BORING NO. WHF-30-SB-5	
CLIENT: SOUTHNAVFACENGCOM						PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.				DATE STARTED: 01/05/93		COMPLTD: 01/05/93	
METHOD: HSA		CASE SIZE: N/A		SCREEN INT.: N/A		PROTECTION LEVEL: D	
TOC ELEV.: N/A FT.		MONITOR INST.: OVA		TOT DPTH: 17FT.		DPTH TO ∇ N/A FT.	
LOGGED BY: G. Walker		WELL DEVELOPMENT DATE: N/A				SITE: 30 - Southfield Hangar	

DEPTH FT.	LABORATORY SAMPLE ID.	RECOVERY HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
(0-2')			0 SAND: moderate brown, fine to medium, trace clay & silt.		SW	Hand Auger	
5		14/24	0 SAND: Moderate red, very fine to medium, trace clay, moist.		SW	3,4,6,9	
10		4/24	2.5 SAND: Moderate red, very fine to fine, trace clay & silt, moist.		SW	5,10,14,14	
15	(15-17)	23/24	0 SAA.		SW	10,15,16,18	
20							
25							
30							
35							
40							

TITLE: NAVAL AIR STATION WHITING FIELD		LOG of WELL: N/A		BORING NO. WHF-30-SB-6	
CLIENT: SOUTHNAVFACENGCOM				PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.			DATE STARTED: 01/05/93		COMPLTD: 01/05/93
METHOD: HSA		CASE SIZE: N/A	SCREEN INT.: N/A	PROTECTION LEVEL: D	
TOC ELEV.: N/A FT.		MONITOR INST.: OVA	TOT DPTH: 17FT.	DPTH TO ∇ N/A FT.	
LOGGED BY: G. Walker		WELL DEVELOPMENT DATE: N/A			SITE: 30 - Southfield Hangar

DEPTH F.T.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
(0-2')				< 1	SAND: Moderate brown, fine to medium, trace clay & silt, well graded.		SC	Hand Auger	
5			14/24	< 1	SAND: Moderate red, very fine to medium, trace clay, well graded, moist.		SC	3,3,4,4	
10	(10-12')		18/24	0	SAND: Moderate red, very fine to fine, trace clay & silt, dry.		SC	4,8,7,7	
15			22/24	< 1	SAA.		SC	5,15,17,14	
20									
25									
30									
35									
40									

TITLE: NAVAL AIR STATION WHITING FIELD		LOG of WELL: N/A	BORING NO. WHF-30-SB-7
CLIENT: SOUTHNAVFACENGCOM		PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 01/05/93	COMPLTD: 01/05/93
METHOD: HSA	CASE SIZE: N/A	SCREEN INT.: N/A	PROTECTION LEVEL: 0
TOC ELEV.: N/A FT.	MONITOR INST.: OVA	TOT DPTH: 12FT.	DPTH TO ∇ N/A FT.
LOGGED BY: G. Walker	WELL DEVELOPMENT DATE: N/A		SITE: 30 - Southfield Hangar

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
(0-2')				0	SAND: Light brown, very fine to fine, trace clay & silt, well graded, moist.		SC	Hand Auger	
5			18/24	0	SAND: Moderate reddish brown, very fine to medium, trace clay, well graded, moist.		SC	3,6,7,7	
10	(10-12')		24/24	0	SAA.		SC	4,5,7,9	
15									
20									
25									
30									
35									
40									





TITLE: NAVAL AIR STATION WHITING FIELD		LOG of WELL: N/A	BORING NO. WHF-32-SB-01
CLIENT: SOUTHNAVFACENGCOM		PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 01/09/93	COMPLTD: 01/09/93
METHOD: HSA	CASE SIZE: N/A	SCREEN INT.: N/A	PROTECTION LEVEL: D
TOC ELEV.: N/A FT.	MONITOR INST.: OVA	TOT DPTH: 52FT.	DPTH TO ∇ N/A FT.
LOGGED BY: D. Loneragan	WELL DEVELOPMENT DATE: N/A		SITE: 32 - Northfield Hangar

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
(1-2')				0	SAND: Brown, fine, silt.		SP	Hand Auger	
5 (5-7')			17/24	0	CLAYEY SAND: Red to brown, clay mottling, slightly moist.		SC	3,12,18,22	
10 (10-12')			24/24	0	CLAYEY SILT: Red to pink, grey mottling, trace sand.		ML	7,17,18,27	
15 (15-17')			24/24	0	SAA.		ML	6,11,16,16	
20 (20-22)			12/24	10	SAND: Reddish pink, very fine to fine, trace tan silt.		SP	7,10,7,10	
25			19/24	19	SAND: Tan, medium, trace silt.		SP	4,4,5,10	
30			--/24		SAA.		SP		
35 (35-37')			22/24	22	SAA, white to pink, pebbles.		SP	5,9,13,18	
40							SP		

TITLE: NAVAL AIR STATION WHITING FIELD		LOG of WELL: N/A		BORING NO. WHF-32-SB-01	
CLIENT: SOUTHNAVFACENGCOM				PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.			DATE STARTED: 01/09/93		COMPLTD: 01/09/93
METHOD: HSA		CASE SIZE: N/A		SCREEN INT.: N/A	
TOC ELEV.: N/A FT.		MONITOR INST.: OVA		TOT DPTH: 52FT.	
LOGGED BY: D. Lonergan		WELL DEVELOPMENT DATE: N/A			SITE: 32 - Northfield Hangar

DEPTH FT.	LABORATORY SAMPLE ID.	RECOVERY HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS Continued from PAGE 1	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
		--/24	SAA, some pebbles, dry.		SP		
45		--/24	SAA, increasing coarse material.		SP		
50 (50-52')		23/24	SAND: White to pink, fine, well sorted.		SP	11,15,23,30	
55							
60							
65							
70							
75							
80							

TITLE: NAVAL AIR STATION WHITING FIELD				LOG of WELL: N/A		BORING NO. WHF-32-SB-2	
CLIENT: SOUTHNAVFACENGCOM						PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.				DATE STARTED: 01/09/93		COMPLTD: 01/09/93	
METHOD: HSA		CASE SIZE: N/A		SCREEN INT.: N/A		PROTECTION LEVEL: D	
TOC ELEV.: N/A FT.		MONITOR INST.: OVA		TOT DPTH: 12FT.		DPTH TO ▽ N/A FT.	
LOGGED BY: G. Walker		WELL DEVELOPMENT DATE: N/A				SITE: 32 - Northfield Hangar	

DEPTH F.T.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
(0-2')			0	SAND: Moderate brown, finek to medium, trace silt, moist.		SM	Hand Auger	
5 (5-7')		18/24	0	SAA, dark yellowish orange.		SM	2,3,3,3	
10		05/24	0	SAA, 1/2" lens of angular gravel.		SM	4,7,9,11	
(12-14')		24/24	0	SAND: Very fine to fine, trace clay, well graded, dry.		SC	7,12,20,27	
15								
20								
25								
30								
35								
40								

TITLE: NAVAL AIR STATION WHITING FIELD				LOG of WELL: N/A		BORING NO. WHF-32-SB-3	
CLIENT: SOUTHNAVFACENGCOM						PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.				DATE STARTED: 01/09/93		COMPLTD: 01/10/93	
METHOD: HSA		CASE SIZE: N/A		SCREEN INT.: N/A		PROTECTION LEVEL: D	
TOC ELEV.: N/A FT.		MONITOR INST.: OVA		TOT DPTH: 32FT.		DPTH TO ∇: N/A FT.	
LOGGED BY: G. Walker		WELL DEVELOPMENT DATE: N/A				SITE: 32 - Northfield Hangar	

DEPTH F.T.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
(0-2')			100	SAND: Moderate brown, fine to medium, poorly graded, petroleum odor, moist.		SW	Hand Auger	
5 (5-7')		16/24	8	SAND: Pale yellow orange, fine to medium, trace silt, moist.		SM	2,2,2,2	
10 (10-12')		18/24	188	SAND: Pale yellow green, very fine to fine, trace silt, moist.		SM	3,6,8,11	
15		08/24	98	CLAY: Moderate red orange, mottled very pale orange, very fine to fine sand, moist.		CL	3,3,6,8	
20 (20-22)		14/24	60	SAND: Moderate red orange, fine to medium, trace silt, moist, musty odor.		SC	6,8,10,14	
25		19/24	0	SAND: Very pale orange, medium to coarse, trace silt, poorly sorted, dry.		SM	3,5,5,7	
30 (30-32')		18/24	0	SAA.		SM	4,4,6,6	
35		12/24	0	SAA.		SM	5,5,5,9	
40								

TITLE: NAVAL AIR STATION WHITING FIELD				LOG of WELL: N/A		BORING NO. WHF-32-SB-04	
CLIENT: SOUTHNAVFACENGCOM						PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.				DATE STARTED: 01/10/93		COMPLTD: 01/10/93	
METHOD: HSA		CASE SIZE: N/A		SCREEN INT.: N/A		PROTECTION LEVEL: D	
TOC ELEV.: N/A FT.		MONITOR INST.: OVA		TOT DPTH: 47FT.		DPTH TO ∇: N/A FT.	
LOGGED BY: G. Walker		WELL DEVELOPMENT DATE: N/A				SITE: 32 - Northfield Hangar	

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
(0-2')			0	SAND: Yellow orange, fine to medium, poorly graded, moist.		SP	Hand Auger	
5		16/24	0	SAND: Light brown, fine, trace clay, well graded, moist.		SC	3,6,7,8	
10		06/24	0	SAA, grade very fine to fine.		SC	5,6,8,8	
15	(15-17')	20/24	29	SAA, mottled red brown after 10".		SC	7,6,10,10	
20	(20-22')	20/24	40	Top 4" same as above ,litho change SAND: moderate red orange, fine to medium, poorly graded, dry.		SW	4,6,7,9	
25	(25-27')	22/24	20	SAND: Very pale orange, medium to coarse, poorly graded, dry.		SW	6,7,8,9	
30		18/24	< 1	SAA.		SW	3,3,4,6	
35	(35-37')	16/24	3	SAA.		SW	4,5,5,7	
40		18/24	0	SAA.		SW	7,10,10,9	
45	(45-47')	18/24	0	SAA.		SW	4,6,6,9	

TITLE: NAVAL AIR STATION WHITING FIELD		LOG of WELL: N/A	BORING NO. WHF-32-SB-04
CLIENT: SOUTHNAVFACEGCOM			PROJECT NO: RI PHASE IIA
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 01/10/93	COMPLTD: 01/10/93
METHOD: HSA	CASE SIZE: N/A	SCREEN INT.: N/A	PROTECTION LEVEL: 0
TOC ELEV.: N/A FT.	MONITOR INST.: OVA	TOT DPTH: 47FT.	DPTH TO ∇ N/A FT.
LOGGED BY: G. Walker	WELL DEVELOPMENT DATE: N/A		SITE: 32 - Northfield Hangar

DEPTH FT.	LABORATORY SAMPLE ID.	RECOVERY HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS Continued from PAGE 1	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
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DEPTH FT.	LABORATORY SAMPLE ID.	RECOVERY HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS Continued from PAGE 1	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
51		18/24		• • •	SW		
56							
61							
66							
71							
76							
81							
86							
91							

TITLE: NAVAL AIR STATION WHITING FIELD				LOG of WELL: N/A		BORING NO. WHF-32-SB-05	
CLIENT: SOUTHNAVFACENGCOM				PROJECT NO: RI PHASE IIA			
CONTRACTOR: Groundwater Protection Inc.				DATE STARTED: 01/19/93		COMPLTD: 01/21/93	
METHOD: HSA		CASE SIZE: N/A		SCREEN INT.: N/A		PROTECTION LEVEL: B & C	
TOC ELEV.: N/A FT.		MONITOR INST.: OVA		TOT DPTH: 110FT.		DPTH TO ∇ 100 FT.	
LOGGED BY: R. Nelson		WELL DEVELOPMENT DATE: N/A				SITE: 32 - Northfield Hangar	

DEPTH F.T.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
(1-2')			0	SAND: Dark brown, moist, some silty clay.		SC	Hand Auger	
5			0	SAND: Light brown, fine, trace clay, poorly graded, moist to wet.		SC	1,1,1,1	
(5-7')		20/24						
10			95	SAA, red soft clay.		SC	2,3,4,4	
(10-12')		8/24						
15			95	SAND: Light brown to pink clay, low plasticity, soft, moist.		SC	7,4,4,6	
		1/24						
		6/24	7	SAA.			6,6,7,9	
20			9	SAND: Reddish brown, fine, medium stiff, slightly moist.		SC	7,9,9,10	
(20-22')		24/24						
25			10	SAND: Alternating bands of pink, white, and tan, fine, slightly moist, subrounded, poorly graded.		SP	3,5,4,4	
		20/24						
30			60	SAA.		SP	5,5,6,6	
		20/24						
35			5	SAND: Fine, trace coarse & silt, poorly graded and slightly moist.		SP	5,9,6,11	
		12/24						
40						SP		

TITLE: NAVAL AIR STATION WHITING FIELD		LOG of WELL: N/A	BORING NO. WHF-32-SB-05
CLIENT: SOUTHNAVFACENGCOM		PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 01/19/93	COMPLTD: 01/21/93
METHOD: HSA	CASE SIZE: N/A	SCREEN INT.: N/A	PROTECTION LEVEL: B & C
TOC ELEV.: N/A FT.	MONITOR INST.: OVA	TOT DPTH: 110 FT.	DPTH TO ∇ 100 FT.
LOGGED BY: R. Nelson	WELL DEVELOPMENT DATE: N/A		SITE: 32 - Northfield Hangar

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
Continued from PAGE 1								
		20/24	50	SAND: White, fine, poorly graded, slightly moist.		SP	10,7,8,10	
45	(45-47)	24/24	160	SAA, trace silt & coarse sand.		SP	12,9,9,8	
50		20/24	< 1	SAND: White, fine, trace coarse, poorly graded, subrounded, slightly moist.		SP	Pushed	
55		20/24	60	SAA, pink silty sand at 56.5 ft, no coarse sand.		SP	Pushed	
60	(61-63)	20/24	7	SAND: White, fine, poorly graded, subrounded, slightly moist.		SP	12,14,20,28	
65		18/24	6	SAA, trace silt at 66 ft.		SP	5,9,14,16	
70		18/24	6	SAND: White, medium, poorly graded, trace coarse, slightly moist, subangular.		SP	5,8,12,14	
75		18/24	6	SAND: Tan, fine to medium, trace coarse, poorly graded, trace silt.		SP	6,6,7,21	
80						SP		

TITLE: NAVAL AIR STATION WHITING FIELD		LOG of WELL: N/A		BORING NO. WHF-32-SB-05	
CLIENT: SOUTHNAVFACENGCOM				PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.			DATE STARTED: 01/19/93		COMPLTD: 01/21/93
METHOD: HSA		CASE SIZE: N/A		SCREEN INT.: N/A	
TOC ELEV.: N/A FT.		MONITOR INST.: OVA		TOT DPTH: 110FT.	
LOGGED BY: R. Nelson		WELL DEVELOPMENT DATE: N/A			SITE: 32 - Northfield Hangar

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
Continued from PAGE 2								
		20/24	1	SAND: Tan, medium, trace coarse, poorly graded, subangular.		SP	7,11,14,14	
85		16/24	5	SAND: White to yellowish orange bands, very fine, trace silt, poorly graded, slightly moist.		SP	5,7,9,9	
90		18/24	5	SAND: White, very fine, poorly graded, slightly moist, subrounded.		SP	5,7,8,9	
95	(95-97')	20/24	3	SAA, greyish white.		SP	5,6,10,11	
100		16/24	1500	SAND: Greyish white, fine to medium, poorly graded, subrounded, saturated.		SP	6,9,14,17	
105		24/24	350	SAA, trace silt.		SP	2,1,3,12	
110		24/24	500	SAA.		SP	---	
115								
120								

TITLE: NAVAL AIR STATION WHITING FIELD				LOG of WELL: N/A		BORING NO. WHF-32-SB-06	
CLIENT: SOUTHNAVFACENGCOM				PROJECT NO: RI PHASE IIA			
CONTRACTOR: Groundwater Protection Inc.				DATE STARTED: 01/11/93		COMPLTD: 01/11/93	
METHOD: HSA		CASE SIZE: N/A		SCREEN INT.: N/A		PROTECTION LEVEL: D	
TOC ELEV.: N/A FT.		MONITOR INST.: OVA		TOT DPTH: 52FT.		DPTH TO ∇ N/A FT.	
LOGGED BY: G. Walker		WELL DEVELOPMENT DATE: N/A				SITE: 32 - Northfield Hangar	

DEPTH FT.	LABORATORY SAMPLE ID.	RECOVERY HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
(0-2')		320	SAND: Greyish red, fine to medium, poorly graded, moist, petroleum stains.		SW	Hand Auger	
5 (5-7')	24/24	100	SAND: Pale yellowish brown, fine to medium, trace silt, poorly sorted, moist.		SM	3,2,4,5	
10 (10-12')	14/24	12	SAND: Yellow orange, very fine to fine, poorly sorted, moist.		SC	6,9,9,10	
15	0/24	--	NO RECOVERY IN THE 15-17 FT SPOON.			4,6,7,9	
20 (20-22)	22/24	65	SAND: Very pale orange, very fine to fine, poorly graded, dry.		SW	6,14,14,17	
25	20/24	3	SAND: Very pale orange, fine to medium, poorly graded, dry.		SW	3,2,5,5	
30 (30-32')	17/24	7	SAA.		SW	3,4,5,5	
35	16/24	17	SAA.		SW	4,4,6,5	
40					SW		

TITLE: NAVAL AIR STATION WHITING FIELD		LOG of WELL: N/A		BORING NO. WHF-32-SB-06	
CLIENT: SOUTHNAVFACENGCOM				PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.			DATE STARTED: 01/11/93		COMPLTD: 01/11/93
METHOD: HSA		CASE SIZE: N/A		SCREEN INT.: N/A	
TOC ELEV.: N/A FT.		MONITOR INST.: OVA		TOT DPTH: 52FT.	
LOGGED BY: G. Walker		WELL DEVELOPMENT DATE: N/A			SITE: 32 - Northfield Hangar

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
Continued from PAGE 1								
		18/24	1.5	SAA.		SW	7,8,9,11	
45 (45-47)		20/24	0	SAA, 3 mm gravel layer.		SW	14,16,17,19	
50		21/24	0	SAA.		SW	-----	
55								
60								
65								
70								
75								
80								








TITLE: NAVAL AIR STATION WHITING FIELD		LOG of WELL: N/A	BORING NO. WHF-32-SB-07
CLIENT: SOUTHNAVFACENGCOM		PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 01/20/93	COMPLTD: 01/21/93
METHOD: HSA	CASE SIZE: N/A	SCREEN INT.: N/A	PROTECTION LEVEL: B & C
TOC ELEV.: N/A FT.	MONITOR INST.: OVA	TOT DPTH: 32FT.	DPTH TO ∇ N/A FT.
LOGGED BY: B. Colby	WELL DEVELOPMENT DATE: N/A		SITE: 32 - Northfield Hangar

DEPTH FT.	LABORATORY SAMPLE ID.	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
			5				Hand Auger	
5		24/24	70	CLAYEY SAND: Stained olive, fine, high odor.		SC	2,2,2,3	
10		12/24	2800	SILTY CLAY: Orange and grey, some olive streaks, medium plasticity, strong sweet odor.		CL	6,7,12,24	
15		24/24	500	SAA.		CL	11,12,9,18	
20		10/24	2000	SAA.		CL	4,4,5,7	
25		--/24	700	SAND: Grey, medium, well graded.		SP	11,14,19,23	
30	(30-32')	20/24	200	SAA.		SP	3,9,12,6	
35								
40								

TITLE: NAVAL AIR STATION WHITING FIELD				LOG of WELL: N/A		BORING NO. WHF-32-SB-08	
CLIENT: SOUTHNAVAFACENGCOM						PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.				DATE STARTED: 01/21/93		COMPLTD: 01/21/93	
METHOD: Hand Auger		CASE SIZE: N/A		SCREEN INT.: N/A		PROTECTION LEVEL: D	
TOC ELEV.: N/A FT.		MONITOR INST.: OVA		TOT DPTH: 15FT.		DPTH TO ∇: N/A FT.	
LOGGED BY: B. Colby		WELL DEVELOPMENT DATE: N/A				SITE: 32 - Northfield Hangar	

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
0				0	CLAYEY SAND: Reddish brown to light brown, fine.		SC		Hand Auger
5	(5-7')		Full	0	SILTY SAND: Yellowish brown , fine, very moist.		SM		Hand Auger
10	(13-15')		Full	3	CLAYEY SAND: SAA, some purple clay lenses.		SC		Hand Auger
15			Full	0	SANDY CLAY: Orange to purple, medium plasticity.		CL		Hand Auger
20									
25									
30									
35									
40									

TITLE: NAVAL AIR STATION WHITING FIELD				LOG of WELL: N/A		BORING NO. WHF-33-SB-1	
CLIENT: SOUTHNAVFACENGCOM						PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.				DATE STARTED: 12/03/92		COMPLTD: 12/03/92	
METHOD: HSA		CASE SIZE: N/A		SCREEN INT.: N/A		PROTECTION LEVEL: D	
TOC ELEV.: N/A FT.		MONITOR INST.: OVA		TOT DPTH: 27FT.		DPTH TO ∇ N/A FT.	
LOGGED BY: S. Consalvi		WELL DEVELOPMENT DATE: N/A				SITE: 33 - Midfield Hangar	

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
			0	SANDY SILT: Reddish brown, moderate reddish brown mottling.		ML		POSTHOLE
5	(3-5')	22/24	0	SILTY SAND: Moderate reddish brown, fine, poorly graded.		SM	3,3,3,4	
		20/24	0	SANDY CLAY: Moderate reddish brown, fine, poorly graded, slightly moist.		CL	3,3,5,4	
10	(10-12')	20/24	0	CLAYEY SAND: Moderate reddish brown, fine, poorly graded.		SC	3,3,3,3	
15		2/24	0	SAA.		SC	5,6,6,7	
		4/24	0	SAA.			4,5,7,7	
25	(25-27')	22/24	0	SILTY SAND: Moderate reddish orange, fine, very pale orange mottling (trace).		SM	7,7,9,11	
30								
35								
40								

TITLE: NAVAL AIR STATION WHITING FIELD		LOG of WELL: N/A	BORING NO. WHF-33-SB-2
CLIENT: SOUTHNAVFACENGCOM		PROJECT NO: R1 PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 12/01/92	COMPLTD: 12/03/92
METHOD: HSA	CASE SIZE: N/A	SCREEN INT.: N/A	PROTECTION LEVEL: 0
TOC ELEV.: N/A FT.	MONITOR INST.: OVA	TOT DPTH: 122FT.	DPTH TO ∇ 120 FT.
LOGGED BY: S. Consalvi	WELL DEVELOPMENT DATE: N/A		SITE: 33 - Midfield Hangar

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
		-	0			SM	POSTHOLE	
(2-4')		12/24	0	SILTY SAND: Moderate reddish brown, fine, poorly graded, black petroleum staining.			2,1,1,2	
(4-6')		17/24	900	SILTY SAND: Blackish red with black nodules and reddish brown mottling, strong petroleum odor.			6,2,2,3	
(10-12')		17/24	98	SAA, litho change at 10.5' to moderate red clayey sand.		SC	9,6,6,5	
(15-17')		20/24	3.8	CLAYEY SAND: Moderate red, slightly moist at top 3".		SC	7,5,5,6	
		20/24	0.5	SAA, fine, poorly graded.		SC	4,6,6,7	
		20/24	22	SAA, litho change at 26.5' to a greyish orange fine silty sand, very pale orange mottling.		SC	5,6,6,9	
		18/24	92	SAND: White, very fine to fine, poorly graded, pesticide/musty odor.		SP	14,15,18,22	
(35-37')		22/24	2.0	SAND: White, fine, well graded, dry, subrounded.		SP	22,24,26,29	
						SP		

TITLE: NAVAL AIR STATION WHITING FIELD		LOG of WELL: N/A	BORING NO. WHF-33-SB-2
CLIENT: SOUTHNAVFACENGCOM		PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 12/01/92	COMPLTD: 12/03/92
METHOD: HSA	CASE SIZE: N/A	SCREEN INT.: N/A	PROTECTION LEVEL: 0
TOC ELEV.: N/A FT.	MONITOR INST.: OVA	TOT DPTH: 122FT.	DPTH TO ∇ 120 FT.
LOGGED BY: S. Consalvi	WELL DEVELOPMENT DATE: N/A		SITE: 33 - Midfield Hangar

DEPTH FT.	LABORATORY SAMPLE ID.	RECOVERY HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
Continued from PAGE 1							
	14/24	12	SAA.		SP	13,12,18,22	
45	16/24	2.5	SAA, color change to greyish pink.		SP	7,9,13,18	
50	14/24	18	SAA, color change to greyish orange pink over moderate orange pink.		SP	14,15,16,16	
55	18/24	< 1	SAA, moderate orange pink over greyish orange pink.		SP	8,11,13,21	
60 (60-62')	22/24	0	SAA, moderate orange over grey orange pink, coarse, black vertical striations.		SP	51,24,22,28	
65	14/24	3.2	SAND: Greyish pink, fine to medium, well graded, musty odor		SP	---,---,---	
70	14/24	22	SAA, white, solvent odor.		SP	8,7,5,6	
75 (75-77')	22/24	1.6	SAA, moderate red to greyish pink, with a 2" purple grey clay layer.		SP	8,12,15,14	
80					SP		

TITLE: NAVAL AIR STATION WHITING FIELD		LOG of WELL: N/A		BORING NO. WHF-33-SB-2	
CLIENT: SOUTHNAVFACENGCOM				PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.			DATE STARTED: 12/01/92		COMPLTD: 12/03/92
METHOD: HSA		CASE SIZE: N/A		SCREEN INT.: N/A	
TOC ELEV.: N/A FT.		MONITOR INST.: OVA		TOT DPTH: 122FT.	
LOGGED BY: S. Consalvi		WELL DEVELOPMENT DATE: N/A			SITE: 33 - Midfield Hangar

DEPTH F.T.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
Continued from PAGE 2								
(80-82)		22/24	6.0	SAA, white to pale yellow, with a 2" grey pink clay layer.		SP	-8,4,27	
85		16/24	0	SAND: Moderate reddish orange to white, fine to medium, poorly graded, dry, no odor.		SP	10,12,20,27	
90		12/24	0	SAA, very pale orange, grey yellow striping.		SP	15,19,25,32	
95		24/24	0	SAA, pale yellow orange to light red.		SP	23,32,42,--	
(95-97)		18/24	< 1	SAA, white and yellow orange mixed.		SP	25,25,28,--	
105		18/24	2	SAA, greyish orange pink to pale yellow orange over a greyish pink/moderate red soft clay.		SP	---	
110		24/24	2.8	SAND: Red orange, fine, moist. CLAY: Grey to moderate red. SAND: White, fine to coarse, dry.		SP	36,47,41,46	
115		24/24	1.4	CLAY: Moderate red to light grey, fine to medium. SAND: White, fine, clay lenses.		CL	24,31,38,40	
120						SP		



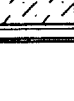
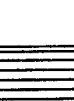




TITLE: NAVAL AIR STATION WHITING FIELD		LOG of WELL: N/A		BORING NO. WHF-33-SB-2	
CLIENT: SOUTHNAVFACENGCOM				PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.			DATE STARTED: 12/01/92		COMPLTD: 12/03/92
METHOD: HSA		CASE SIZE: N/A		SCREEN INT.: N/A	
TOC ELEV.: N/A FT.		MONITOR INST.: OVA		TOT DPTH: 122FT.	
LOGGED BY: S. Consalvi		WELL DEVELOPMENT DATE: N/A			SITE: 33 - Midfield Hangar

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS Continued from PAGE 3	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
(120-122')		24/24	0	SAND: Grey, fine, saturated.		SP	32,39,48,82	
125								
130								
135								
140								
145								
150								
155								
160								

TITLE: NAVAL AIR STATION WHITING FIELD		LOG of WELL: N/A		BORING NO. WHF-33-SB-3	
CLIENT: SOUTHNAVFACENGCOM				PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.			DATE STARTED: 12/01/92		COMPLTD: 12/01/92
METHOD: HSA		CASE SIZE: N/A		SCREEN INT.: N/A	
TOC ELEV.: N/A FT.		MONITOR INST.: FID		PROTECTION LEVEL: D	
LOGGED BY: S. Consalvi		TOT DPTH: 22FT.		DPH TO ∇ N/A FT.	
WELL DEVELOPMENT DATE: N/A			SITE: 33 - Midfield Hangar		

DEPTH F.T.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
				0					POSTHOLE
5	(4-6')		12/24	0	SILTY SAND: Moderate reddish brown, poorly graded.		SM	3,2,2,3	
10	(10-12')		14/24	0	SAA.		SM	4,4,3,4	
15	(15-17')		16/24	0	SAA.		SM	4,6,5,5	
20			12/24	0	SAA.		SM	4,5,5,6	
25									
30									
35									
40									

TITLE: NAVAL AIR STATION WHITING FIELD				LOG of WELL: N/A		BORING NO. WHF-33-SB-4	
CLIENT: SOUTHNAVFACENGCOM						PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.				DATE STARTED: 12/02/92		COMPLTD: 12/02/92	
METHOD: HSA		CASE SIZE: N/A		SCREEN INT.: N/A		PROTECTION LEVEL: D	
TOC ELEV.: N/A FT.		MONITOR INST.: OVA		TOT DPTH: 24FT.		DPTH TO ∇ N/A FT.	
LOGGED BY: S. Conşalvi		WELL DEVELOPMENT DATE: N/A				SITE: 33 - Midfield Hangar	

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
			0	SILTY SAND: Fine.		SM		POSTHOLE
(3-5')		20/24	0	SILTY SAND: Moderate reddish brown, fine, poorly graded.			2,2,2,3	
(5-7')		19/24	0	SAA, litho change at 6.5' SANDY CLAY: Moderate reddish brown, fine, slightly moist.		CL	5,2,2,3	
						CL		
10		14/24	0	SANDY CLAY: SAA.			5,4,4,3	
15	(15-17')	14/24	0	SILTY SAND: Moderate reddish brown, fine, dry.		SM	15,9,8,8	
20		12/24	0	SAA.		SM	7,4,7,5	
		20/24	0	SAA.			7,5,5,5	
25								
30								
35								
40								

TITLE: NAVAL AIR STATION WHITING FIELD		LOG of WELL: N/A		BORING NO. WHF-33-SB-5
CLIENT: SOUTHNAVFACENGCOM			PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 12/06/92		COMPLTD: 12/06/92
METHOD: HSA	CASE SIZE: N/A	SCREEN INT.: N/A	PROTECTION LEVEL: D	
TOC ELEV.: FT.	MONITOR INST.: OVA	TOT DPTH: 22FT.	DPTH TO ∇ FT.	
LOGGED BY: S. Consalvi		WELL DEVELOPMENT DATE: N/A		SITE: 33 - Midfield Hangar

DEPTH F.T.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
(0-2')			20/24	120	SANDY SILT: Dusky yellowish brown to dark yellowish orange, fine, petroleum odor.		ML	4,5,3,6	
(5-7')			22/24	22	SAA, silty clay, moderate red, no odor.		ML CL	5,5,6,7	
(10-12')			24/24	0	SAA.		CL	2,2,2,3	
			12/24	0.6	SAA.		CL	6,6,8,10	
(20-22')			14/24	0	SILTY SAND: Moderate red, fine.		SM	---	

APPENDIX C

RI PHASE IIA MONITORING WELL LITHOLOGIC DESCRIPTIONS

TITLE: Naval Air Station Whiting Field		LOG of WELL: WHF-BKG-1	BORING NO.
CLIENT: SOUTHNAVFACENGCOM			PROJECT NO: RI PHASE IIA
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 5/8/93	COMPLTD: 5/8/93
METHOD: HOLLOW STEM AUGER	CASE SIZE: 2"	SCREEN INT.: 103-118 FT	PROTECTION LEVEL: D
TOC ELEV.: 195.67 FT.	MONITOR INST.: FID	TOT DPTH: 118FT.	DPTH TO ∇ 108.46 FT.
LOGGED BY: T. Kauffman/G.K.	WELL DEVELOPMENT DATE:		SITE: Background

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
5								
10		1.2/2	0	SANDY CLAY (9") - dark yellow orange, low plasticity, dry. SAND (9") - moderate reddish brown, fine to medium, little silt, poorly graded.		SP	2,4,8,20	
15								
20		1.2/2	0	SAND (10") - white, fine to medium, poorly graded. SAND - moderate reddish brown, little silt.		SP	3,8,13,22	
25								
30		1.5/2	0	SAND - yellowish grey, very fine to fine, poorly graded, moderate dense, dry; bottom 3" pale red purple, very loose.		SM	14,21,28,29	
35								
40			0			SP	21,26,29,31	




TITLE: Naval Air Station Whiting Field		LOG of WELL: WHF-BKG-1	BORING NO.
CLIENT: SOUTHNAVFACENGCOM		PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 5/8/93	COMPLTD: 5/8/93
METHOD: HOLLOW STEM AUGER	CASE SIZE: 2"	SCREEN INT.: 103-118 FT	PROTECTION LEVEL: D
TOC ELEV.: 195.67 FT.	MONITOR INST.: FID	TOT DPTH: 118FT.	DPTH TO ∇ 108.46 FT.
LOGGED BY: T. Kauffman/G.K.	WELL DEVELOPMENT DATE:		SITE: Background

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
Continued from PAGE 1									
			1/2		SAND - yellowish grey, very fine to fine, poorly graded, medium dense, dry.		SP		
45									
50			0.9/2	0	Same as above, 2 " pale pink lense, lense of coarse sand and silt.		SP	11,12,13,19	
55									
60			1.5/2	0	Same as above.		SP	8,9,15,20	
65									
70			1.5/2	0	CLAYEY SAND (5") - banded yellow grey,pale red and mod. reddish orange dry to moist. Same as above (6"), pale yellow. Same as above (3"), pale orange. Same as above (8"), pale red.		SC	10,22,21,27	
75			1.5/2						
80				0			SC/CL	7,8,26,23	

TITLE: Naval Air Station Whiting Field		LOG of WELL: WHF-BKG-1	BORING NO.
CLIENT: SOUTHNAVFACENGCOM		PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 5/8/93	COMPLTD: 5/8/93
METHOD: HOLLOW STEM AUGER	CASE SIZE: 2"	SCREEN INT.: 103-118 FT	PROTECTION LEVEL: D
TOC ELEV.: 195.67 FT.	MONITOR INST.: FID	TOT DPTH: 118FT.	DPTH TO ∇ 108.46 FT.
LOGGED BY: T. Kauffman/G.K.	WELL DEVELOPMENT DATE:		SITE: Background

DEPTH FT.	LABORATORY SAMPLE ID.	RECOVERY HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
Continued from PAGE 2							
		2/2	CLAYEY SAND to SANDY CLAY (in lenses) - colors range from dark yellow orange, light brown, pale red, and moderate reddish brown; wet.		SC/CL		
85		2/2	SAND - yellowish grey, very fine to fine, poorly graded, dense moist to wet.		SP	23,34,44,53	
90		1.6/2	Same as above.		SP	26,46,70,74	
95		1.5/2	Same as above.		SP	10,25,24,40	
100		2/2	Same as above.		SP	13,44,41,42	
105		0	SAND - yellow grey, fine to medium, trace coarse, dense, moist.		SP	16,23,13,16	
110		0	Same as above, wet.		SP	10,15,13,16	
115							
120							

TITLE: Naval Air Station Whiting Field		LOG of WELL: WHF-BKG-2	BORING NO.
CLIENT: SOUTHNAVFACENGCOM		PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 4/27/93	COMPLTD: 4/27/93
METHOD: HOLLOW STEM AUGER	CASE SIZE: 2"	SCREEN INT.: 91' - 106'	PROTECTION LEVEL: D
TOC ELEV.: 180.41 FT.	MONITOR INST.: FID	TOT DPTH: 106 FT.	DPTH TO ∇ 96.82 FT.
LOGGED BY: G. Kanchibhatla	WELL DEVELOPMENT DATE:		SITE: Background

DEPTH F.T.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
5									
10			1.2/2	0	SILTY SAND - reddish brown, fine, damp.		SM	3,4,3,2	
15									
20			1.2/2	0	Same as above, deeper reddish color, thin black silt lense.		SM	6,9,11,12	
25									
30			1.5/2	0	Same as above, some fine to medium, thin lenses of white fine medium sand throughout.		SM	8,5,5,7	
35									
40				0			SM/SP	11,12,9,11	


TITLE: Naval Air Station Whiting Field		LOG of WELL: WHF-BKG-2	BORING NO.
CLIENT: SOUTHNAVFACENGCOM			PROJECT NO: RI PHASE IIA
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 4/27/93	COMPLTD: 4/27/93
METHOD: HOLLOW STEM AUGER	CASE SIZE: 2"	SCREEN INT.: 91' - 106'	PROTECTION LEVEL: D
TOC ELEV.: 180.41 FT.	MONITOR INST.: FID	TOT DPTH: 106FT.	DPTH TO ∇ 96.82 FT.
LOGGED BY: G. Kanchibhatla	WELL DEVELOPMENT DATE:		SITE: Background

DEPTH FT.	LABORATORY SAMPLE ID.	RECOVERY HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
Continued from PAGE 1							
		1/2	Same as above (3"). SAND - pale orange fading to off-white, fine, thin to minute lenses of light to pale red, trace to no silt.		SM/SP		
45							
50		0.9/2	Same as above, off-white to pale red; 2" lense of clayey silt, (51') pale red, trace sand, plastic stiff.		SP	11,11,13,14	
55							
60		1.5/2	SAND - off-white, fine, trace to no silt, minute lenses of pale red sand.		SP	17,16,12,19	
65							
70		1.5/2	Same as above (6"), pale yellow. Same as above (3"), pale orange. Same as above (8"), pale red.		SP	19,19,17,21	
75		1.5/2	Same as above, layered pale yellow (4"), pale orange (5"), pale yellow (4"), pale orange (6"); trace silt.		SP	14,19,22,17	
80		0			SP	19,22,drop	

TITLE: Naval Air Station Whiting Field		LOG of WELL: WHF-BKG-2		BORING NO.	
CLIENT: SOUTHNAVFACENGCOM				PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.			DATE STARTED: 4/27/93		COMPLTD: 4/27/93
METHOD: HOLLOW STEM AUGER		CASE SIZE: 2"	SCREEN INT.: 91' - 106'		PROTECTION LEVEL: D
TOC ELEV.: 180.41 FT.		MONITOR INST.: FID	TOT DPTH: 106 FT.		DPTH TO ∇ 96.82 FT.
LOGGED BY: G. Kanchibhatla		WELL DEVELOPMENT DATE:			SITE: Background

DEPTH F.T.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
Continued from PAGE 2								
		2/2		Same as above, layered pale yellow (10"), off-white (3"), with thin lenses of yellow sand, moist.		SP		
85		2/2	0	Same as above, layered pale yellow (3"), off-white to v. pale red (16")		SP	29,27,31,38	
90		1.6/2	0	Same as above, pale red.		SP	17,19,32,48	
95		1.5/2	0	Same as above.		SP	17,28,31,43	
100		2/2	0	Same as above, oxidation staining at 101'.		SP	10,11,19,26	
105								
110								
115								
120								

TITLE: Naval Air Station Whiting Field				LOG of WELL: WHF-BKG-3		BORING NO.	
CLIENT: SOUTHNAVFACENGCOM						PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.				DATE STARTED: 4/26/93		COMPLTD: 4/26/93	
METHOD: HOLLOW STEM AUGER		CASE SIZE: 2"		SCREEN INT.: 64' - 79'		PROTECTION LEVEL: D	
TOC ELEV.: FT.		MONITOR INST.: FID		TOT DPTH: 79FT.		DPTH TO ∇ 72.90 FT.	
LOGGED BY: G. Kanchibhatla		WELL DEVELOPMENT DATE:				SITE: Background	

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
5									
10			1.2/2	0	SANDY SILT - orange red, fine, interbedded with yellow brown, slightly moist, medium dense, trace clay.		ML	5,12,8,11	
15									
20			1.2/2	0	Same as above (Top 4"). SAND - off-white, fine, interbedded very pale red and very pale orange, trace to no silt, slightly damp.		ML/SP	8,8,8,9	
25									
30			1.5/2	0	SAND - very pale red to pale red (interbedded), trace silt, slightly damp, trace to no silt, dense.		SP	5,8,8,12	
35									
40				0			SP	12,13,18,16	

TITLE: Naval Air Station Whiting Field		LOG of WELL: WHF-BKG-3	BORING NO.
CLIENT: SOUTHNAVFACENGCOM		PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 4/26/93	COMPLTD: 4/26/93
METHOD: HOLLOW STEM AUGER	CASE SIZE: 2"	SCREEN INT.: 64' - 79'	PROTECTION LEVEL: D
TOC ELEV.: FT.	MONITOR INST.: FID	TOT DPTH: 79FT.	DPTH TO ∇ 72.90 FT.
LOGGED BY: G. Kanchibhatla	WELL DEVELOPMENT DATE:		SITE: Background

DEPTH FT.	LABORATORY SAMPLE ID.	RECOVERY HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
Continued from PAGE 1							
		1/2	SAND - off-white to pale orange, fine, thin layers of orange sand, some orange brown silt in the bottom 4".		SP		
45							
50		0.9/2	Same as above, brownish purple (3"), light brown to light tan (8"), trace to some silt.		SP	10,16,19,28	
55							
60		1.5/2	SANDY CLAY (4") - brownish purple, some silt, plastic, soft, moist. Same as 50' to 52' (1.1').		CL/SP	8,18,23,20	
65							
70		1.5/2	Same as above, reddish purple and yellow orange interbedded, saturated		SP	8,9,6,8	
75		1.5/2	SANDY CLAY - pale reddish purple interbedded with off-white, thin lense of yellow orange silt, plastic, medium stiff, moiste.		SC	5,6,9,12	
80		0			ML	2,3,3,11	

TITLE: NAVAL AIR STATION WHITING FIELD		LOG of WELL: WHF-1-1S	BORING NO.
CLIENT: SOUTHNAVFACENGCOM		PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 06/28/93	COMPLTD: 06/28/93
METHOD: HSA	CASE SIZE: 2"	SCREEN INT.: 57-72	PROTECTION LEVEL: D
TOC ELEV.: 143.55 FT.	MONITOR INST.: OVA	TOT DPTH: 74FT.	DPTH TO ∇ 64.62 FT.
LOGGED BY: A. Cohen	WELL DEVELOPMENT DATE:	SITE: 1 - N.W. Disposal Area	

DEPTH FT.	LABORATORY SAMPLE ID.	RECOVERY HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
5		2.0/2.0	0 SAND - orange-brown, very fine to fine, well graded.		SP	4,6,8,11	
10		2.0/2.0	0 SAND - SAA, very pale orange, trace coarse.		SP	5,5,7,6	
15		1.8/2.0	0 SAND - white, fine well graded, fine black phosphatic grains.		SP	7,6,8,7	
20		1.5/2.0	0 SAND - pale moderate red to orange brown mottling, SAA.		SP	5,5,5,12	
25		1.5/2.0	0 SAND - SAA.		SP	3,6,10,11	
30		1.0/2.0	0 SAND - SAA, layers of pale moderate red to orange-brown.		SP	8,9,20,21	
35		1.5/2.0	0 SAND - layers of orange brown, pale yellow, white & tan, medium to coarse.		SP	5,11,14,22	
40		2.0/2.0	0 SAND - fine to medium, trace coarse, mottled orange-brown, pale yellow & white.		SP	15,17,21,30	

TITLE: NAVAL AIR STATION WHITING FIELD		LOG of WELL: WHF-1-1S		BORING NO.	
CLIENT: SOUTHNAVFACENGCOM				PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.			DATE STARTED: 06/28/93		COMPLTD: 06/28/93
METHOD: HSA		CASE SIZE: 2"		SCREEN INT.: 57-72	
TOC ELEV.: 143.55 FT.		MONITOR INST.: OVA		PROTECTION LEVEL: D	
LOGGED BY: A. Cohen		WELL DEVELOPMENT DATE:		DEPTH TO ∇: 64.62 FT.	
				SITE: 1 - N.W. Disposal Area	

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
Continued from PAGE 1								
		2.0/2.0				SP		
45		1.5/2.0	0	SAND - pale yellow to white, fine, well graded, fine black phosphatic grains.		SP	5,11,26,38	
50		1.8/2.0	0	SAND - white, fine, well graded, pale moderate red mottling.		SP	5,12,19,32	
55		1.8/2.0	0	SAND - white, fine to medium, well graded, mottling.		SP	29,21,37,33	
60		1.5/2.0	0	SAND - fine to medium, well graded, striations, wet.		SP	14,18,17,21	
65		2.0/2.0	0	SAND - pale moderate red, medium to coarse, trace pebbles, wet.		SP	5,7,12,15	
70		2.0/2.0	0	SAND - SAA, very pale moderate red.		SP	6,8,13,17	
75								
80								

TITLE: NAVAL AIR STATION WHITING FIELD		LOG of WELL: WHF-1-2		BORING NO.	
CLIENT: SOUTHNAVFACENGCOM				PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.			DATE STARTED: 02/20/93		COMPLTD: 02/21/93
METHOD: HSA		CASE SIZE: 2"	SCREEN INT.: 60-75 FT		PROTECTION LEVEL: 0
TOC ELEV.: 145.68 FT.		MONITOR INST.: FID	TOT DPTH: 75FT.		DPTH TO ∇ FT.
LOGGED BY: L. Foster		WELL DEVELOPMENT DATE:			SITE: 1 - N.W. Disposal Area

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
5			24/24	0	SAND - brown to reddish brown, fine to medium, moderately graded, loose, trace fines, dry.		SP	4,2,2,3	
10			24/24	0	SAA, light to reddish orange.		SP	5,5,13,15	
15			24/24	0	SAND - orangish white, trace fines and some medium, poorly graded, moist.		SP	6,8,16,15	
20			24/24	0	SAA, 2" clay lens, dry.		SP	4,4,8,9	
25			20/24	0	SAND - orange and white layered, fine to medium, trace coarse, moderately graded, dry.		SP	5,6,10,12	
30			19/24	0	SAND - pale yellowish orange, fine to coarse, trace fines, moderate to well graded, dry.		SP	17,15,12,19	
35			18/24	0	SAND - white, fine to medium, trace coarse, poorly graded, loose, dry.		SP	14,16,27,29	
40							SP		

TITLE: NAVAL AIR STATION WHITING FIELD		LOG of WELL: WHF-1-2		BORING NO.	
CLIENT: SOUTHNAVFACENGCOM				PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.			DATE STARTED: 02/20/93		COMPLTD: 02/21/93
METHOD: HSA		CASE SIZE: 2"	SCREEN INT.: 60-75 FT		PROTECTION LEVEL: D
TOC ELEV.: 145.68 FT.		MONITOR INST.: FID	TOT DPTH: 75FT.		DPTH TO ∇ FT.
LOGGED BY: L. Foster		WELL DEVELOPMENT DATE:			SITE: 1 - N.W. Disposal Area

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
Continued from PAGE 1								
		18/24	0	SAND - pinkish yellow, fine to medium, some coarse, moderately graded, dry.		SP	14,15,22,22	
45		20/24	0	SAND - white, yellow, and pink, medium to coarse, well graded, loose, moist.		SW	15,17,24,26	
50		18/24	0	SAND - pink and white, medium, poorly graded, moist, loose, 1" clay lense.		SP	18,13,16,19	
55		16/24	0	SAND - yellowish tan, medium to coarse, some fines, stiff, well graded, moist.		SW	5,8,13,17	
60		24/24	0	SAA, orange banding, firm.		SW	21,16,17,19	
65		24/24	0	SAA.		SW	17,19,14,16	
70		24/24	0	SAA, light reddish brown, saturated.		SW	9,2,4,3	
75		24/24	1	SAA, bottom 4" fine sand, saturated.		SW	15,17,26,30	
80								

TITLE: NAVAL AIR STATION WHITING FIELD				LOG of WELL: WHF-1-3		BORING NO.	
CLIENT: SOUTHNAVFACENGCOM						PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.				DATE STARTED: 06/28/93		COMPLTD: 06/28/93	
METHOD: HSA		CASE SIZE: 2"		SCREEN INT.: 70-85 FT		PROTECTION LEVEL: D	
TOC ELEV.: 156 FT.		MONITOR INST.: OVA		TOT DPTH: 87FT.		DPTH TO ∇ 76.72 FT.	
LOGGED BY: A. Cohen		WELL DEVELOPMENT DATE:				SITE: 1 - N.W. Disposal Area	

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
5		1.8/2.0	0	SAND - very fine to fine, slightly silty, striations.		SP	8,12,12,14	
10		2.0/2.0	0	SAND - tan, very fine to fine, well graded, trace silt.		SP	4,6,6,7	
15		1.0/2.0	0	SAND - fine to medium, striations.		SP	8,9,13,15	
20		1.5/2.0	0	SAND - white, fine, well graded, mottled.		SP	5,4,5,7	
25		1.5/2.0	0	SAND - fine to medium, mottled.		SP	7,7,9,12	
30		1.7/2.0	0	SAND - SAA, medium, well graded, trace coarse.		SP	8,15,15,24	
35		1.6/2.0	0	SAND - pale yellow to white, fine, trace medium, well graded.		SP	5,7,9,9	
40		2.0/2.0	N/A	SANDY CLAY - moderate red to gray, mottled.		SC	9,8,14,15	
45			N/A			SP	22,33,39,34	

TITLE: NAVAL AIR STATION WHITING FIELD		LOG of WELL: WHF-1-3		BORING NO.
CLIENT: SOUTHNAVFACENGCOM			PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 06/28/93		COMPLTD: 06/28/93
METHOD: HSA	CASE SIZE: 2"	SCREEN INT.: 70-85 FT	PROTECTION LEVEL: 0	
TOC ELEV.: 156 FT.	MONITOR INST.: OVA	TOT DPTH: 87FT.	DPTH TO ∇ 76.72 FT.	
LOGGED BY: A. Cohen	WELL DEVELOPMENT DATE:		SITE: I - N.W. Disposal Area	

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
				Continued from PAGE 1				
		2.0/2.0		SAND - pale moderate red to white, medium to coarse, well graded, mottled.		SP		
50		2.0/2.0	N/A	SAND - white, fine to medium, well graded, trace pebbles, black phosphatic grains.		SP	38,31,32,51	
55		1.5/2.0	N/A	SAND - white, fine to medium, pebbles.		SP	25,32,44,46	
60		1.8/2.0	N/A	SAND - fine, well graded.		SP	27,38,44,50	
65		1.6/2.0	N/A	SAND - SAA, moist.		SP	31,33,41,48	
70		1.5/2.0	N/A	SAND - white, fine, poorly graded.		SP	12,14,15,16	
75		2.0/2.0	N/A	SAND - white, fine, poorly graded, saturated.		SP	15,17,16,14	
80		2.0/2.0	N/A	SAND - white, fine, poorly graded, saturated.		SP	15,21,25,38	
85								
90								

TITLE: NAVAL AIR STATION WHITING FIELD				LOG of WELL: WHF-2-1		BORING NO.	
CLIENT: SOUTHNAVFACENGCOM						PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.				DATE STARTED: 7/16/93		COMPLTD: 7/17/93	
METHOD: MUD ROTARY		CASE SIZE: 2"		SCREEN INT.: 70-85 FT		PROTECTION LEVEL: D	
TOC ELEV.: 151.31 FT.		MONITOR INST.: OVA		TOT DPTH: 87FT.		DPTH TO ∇ 78.1 FT.	
LOGGED BY: N. Roka		WELL DEVELOPMENT DATE:				SITE: 2- Land fill	

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
5		22/24	BKG	SILTY SAND - red, fine, poorly graded, loose, damp.		SM	3,3,4,3	
10		24/24	BKG	SAND - red, fine, some silt, poorly graded, loose, dry, subrounded.		SP	4,3,2,2	
15		19/24	<1	Same as above.		SP	7,6,8,8	
20		24/24	BKG	Same as above., little silt. Same as above, inter layered medium sand with some fine, tan, poorly graded, medium dense, dry, subangular.		SP	7,6,7,9	
25		24/24	BKG	Same as above. SILTY SAND - red to light orange to light tan, fine, poorly graded, medium dense, dry.		SM	11,6,7,9	
30		22/24	1	Same as above. SAND - white, fine, poorly graded, medium dense, moist, subangular.		SP	15,9,10,12	
35		22/24	BKG	Same as above, grade to fine to medium.		SP	14,11,9,16	
40		16/24	1	Same as above, white, fine to medium, poorly graded, dense, moist, subangular.		SP	17,18,19,22	
45			BKG			SP	15,15,21,24	

TITLE: NAVAL AIR STATION WHITING FIELD		LOG of WELL: WHF-2-1		BORING NO.	
CLIENT: SOUTHNAVFACENGCOM				PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.			DATE STARTED: 7/16/93		COMPLTD: 7/17/93
METHOD: MUD ROTARY		CASE SIZE: 2"		SCREEN INT.: 70-85 FT	
TOC ELEV.: 151.31 FT.		MONITOR INST.: OVA		TOT DPTH: 87FT.	
LOGGED BY: N. Roka		WELL DEVELOPMENT DATE:			SITE: 2- Land fill

DEPTH FT.	LABORATORY SAMPLE ID.	RECOVERY SAMPLE	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
Continued from PAGE 1								
		20/24		Same as above.		SP		
50		20/24	BKG	Same as above.		SP	19,22,23,26	
55		20/24	BKG	Same as above, fine grade to medium, small dark staining spots.		SP	27,18,18,22	
60		18/20	BKG	Same as above, light pink, trace silt.		SP	12,8,9,20	
65		18/24	BKG	SAND - whitish tan with dark green mottling and light pink layering, fine to medium, poorly graded, very dense, dry, subrounded.		SP	23,26,30,19	
70		18/24	BKG	Same as above.		SP	19,19,30,40	
75		20/24	3	Same as above, dark green spotting, light pink layering, dense, wet.		SP	20,20,26,29	
80		24/24	2	SAND - light tan with rust stain, fine to medium, moderately well graded, medium dense, saturated, subrounded to subangular.		SP/SW	8,10,11,11	
85								
90								

TITLE: Naval Air Station Whiting Field			LOG of WELL: WHF-3-ID		BORING NO.				
CLIENT: SOUTHNAVFACENGCOM					PROJECT NO: RI PHASE IIA				
CONTRACTOR: Groundwater Protection Inc.			DATE STARTED: 5/21/93		COMPLTD: 6/11/93				
METHOD: MUD ROTARY		CASE SIZE: 2"		SCREEN INT.: 170-180 FT		PROTECTION LEVEL: D			
TOC ELEV.: 173.21 FT.		MONITOR INST.: FID/OVA		TOT DPTH: 182FT.		DPTH TO ∇ 104.41 FT.			
LOGGED BY: N. Roka		WELL DEVELOPMENT DATE:			SITE: 3				
DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
5					Lithological descriptions begin at 40 feet BLS.				
6									
7									
8									
9									
10									
11									
12									
13									
14									
15									
16									
17									
18									
19									
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30									
31									
32									
33									
34									
35									
36									
37									
38									
39									
40				0.4			SP	10,14,24,23	

TITLE: Naval Air Station Whiting Field		LOG of WELL: WHF-3-ID	BORING NO.
CLIENT: SOUTHNAVFACENGCOM			PROJECT NO: RI PHASE IIA
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 5/21/93	COMPLTD: 6/11/93
METHOD: MUD ROTARY	CASE SIZE: 2"	SCREEN INT.: 170-180 FT	PROTECTION LEVEL: D
TOC ELEV.: 173.21 FT.	MONITOR INST.: FID/OVA	TOT DPTH: 182FT.	DPTH TO ∇ 104.41 FT.
LOGGED BY: N. Roka	WELL DEVELOPMENT DATE:		SITE: 3

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
Continued from PAGE 1								
		10/24		SAND - white, fine to medium grained, poorly graded, no silt.		SP		
45								
50		12/24	1.5	Same as above, trace (3%) fine black, sand.		SP	10,20,21,27	
55								
60		9/24	4	Same as above, medium to coarse grained, well graded, coarse fraction is rounded, dry.		SP	29,31,37,43	
65								
70		12/24	0	Same as 50'-52' sample, fine grained.		SP	14,18,25,27	
75								
80			0			SP	19,21,38,33	

TITLE: Naval Air Station Whiting Field		LOG of WELL: WHF-3-ID	BORING NO.
CLIENT: SOUTHNAVFACENGCOM			PROJECT NO: RI PHASE IIA
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 5/21/93	COMPLTD: 6/11/93
METHOD: MUD ROTARY	CASE SIZE: 2"	SCREEN INT.: 170-180 FT	PROTECTION LEVEL: D
TOC ELEV.: 173.21 FT.	MONITOR INST.: FID/OVA	TOT DPTH: 182 FT.	DPTH TO ∇ 104.41 FT.
LOGGED BY: N. Roka	WELL DEVELOPMENT DATE:		SITE: 3

DEPTH FT.	LABORATORY SAMPLE ID.	RECOVERY SAMPLE	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
Continued from PAGE 2								
		114/24		Same as above, medium grained, trace coarse sand.		SP		
85								
90								
95								
100								
		24/24	0	CLAY - grey to purple, highly plastic, 2 thin (<1" thick) fine sand and clay lenses.		CL	7,7,7,6	
		23/24	0	Same as above.			12,16,14,15	
105								
110		24/24	BKG	CLAY - tan with gray mottling, inorganic, moist, moderately plastic, firm to stiff.		CL	7,10,14,18	
115		18/24	1.4	CLAYEY SAND - light tan sand with gray clay, fine, poorly graded, inorganic, saturated, low plasticity, dense.		CH	22,29,30,40	
120			BKG			SP	25,28,42,41	

TITLE: Naval Air Station Whiting Field		LOG of WELL: WHF-3-1D		BORING NO.	
CLIENT: SOUTHNAVFACENGCOM				PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.			DATE STARTED: 5/21/93		COMPLTD: 6/11/93
METHOD: MUD ROTARY		CASE SIZE: 2"	SCREEN INT.: 170-180 FT		PROTECTION LEVEL: D
TOC ELEV.: 173.21 F.T.		MONITOR INST.: FID/OVA	TOT DPTH: 182FT.		DPTH TO ∇ 104.41 FT.
LOGGED BY: N. Roka		WELL DEVELOPMENT DATE:			SITE: 3

DEPTH F.T.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
Continued from PAGE 3									
			16/24		SAND - light tan, fine, poorly graded, subrounded, saturated, dense.		SP		
125			1/24	N/A	REFUSAL, SAND - tan, fine, poorly graded, saturated, very dense.		SP	23,56,-Refsl	
130			13/24	>10	Same as above, except OVA of spoon is 10 ppm.		SP	18,37,50,-	
135									
140			13/24	BKG	Same as above, no OVA detects.		SP	27,46,48,44	
145									
150			8/24	BKG	Same as above, except grading down to medium sand.		SP	22,37,52,-	
155									
160				N/A			SP	34,42,42,50+	

TITLE: Naval Air Station Whiting Field		LOG of WELL: WHF-3-1D		BORING NO.
CLIENT: SOUTHNAVFACENGCOM			PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 5/21/93		COMPLTD: 6/11/93
METHOD: MUD ROTARY	CASE SIZE: 2"	SCREEN INT.: 170-180 FT	PROTECTION LEVEL: D	
TOC ELEV.: 173.21 FT.	MONITOR INST.: FID/OVA	TOT DPTH: 182FT.	DPTH TO ∇ 104.41 FT.	
LOGGED BY: N. Roka	WELL DEVELOPMENT DATE:		SITE: 3	















DEPTH F.T.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
Continued from PAGE 4									
			15/24		Same as above, fine to medium, Grade to fine at 1 ft.		SP		
165									
170									
175			15/24	BKG	Same as above, alternating bands of light tan to pink.		SP	16,26,28,37	
180									
185									
190									
195									
200									

TITLE: Naval Air Station Whiting Field				LOG of WELL: WHF-3-IS		BORING NO.			
CLIENT: SOUTHNAVFACENGCOM						PROJECT NO: RI PHASE IIA			
CONTRACTOR: Groundwater Protection Inc.				DATE STARTED: 6/12/93		COMPLTD: 6/12/93			
METHOD: MUD ROTARY		CASE SIZE: 2"		SCREEN INT.: 113-123 FT		PROTECTION LEVEL: D			
TOC ELEV.: 173.26 FT.		MONITOR INST.: FID/OVA		TOT DPTH: 123.5 FT.		DPTH TO ∇ 104.53 FT.			
LOGGED BY: N. Roka		WELL DEVELOPMENT DATE:				SITE: 3			
DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
5					SEE WHF-3-ID FOR LITHOLOGICAL DESCRIPTIONS BETWEEN 40 AND 90 FT BLS.				
6									
7									
8									
9									
10									
11									
12									
13									
14									
15									
16									
17									
18									
19									
20									
21									
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64									
65									

TITLE: Naval Air Station Whiting Field		LOG of WELL: WHF-3-IS	BORING NO.
CLIENT: SOUTHNAVFACENGCOM		PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 6/12/93	COMPLTD: 6/12/93
METHOD: MUD ROTARY	CASE SIZE: 2"	SCREEN INT.: 113-123 FT	PROTECTION LEVEL: D
TOC ELEV.: 173.26 FT.	MONITOR INST.: FID/OVA	TOT DPTH: 123.5 FT.	DPTH TO ∇ 104.53 FT.
LOGGED BY: N. Roka	WELL DEVELOPMENT DATE:		SITE: 3

DEPTH FT.	LABORATORY SAMPLE ID.	RECOVERY HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS Continued from PAGE 1	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
70							
75							
80							
85							
90	1.8/2	1.5	SAND - light purple and white interbedded, fine grained, poorly graded bottom 10 " with silt (40%), light to dark brown, dry.		SP	17,31,28,33	
95	1.8/2	1	Same as above, light purple to light brown, fine to medium grained, some silt (20%), poorly graded.		SP	wor	
100	2/2	6	SILT - grey, poorly graded, not saturated. CLAY (bottom 2") - grey, highly plastic.		ML	wor	
105	2/2	10	Same as above, tan and grey, little to no silt.		CH	wor	
110	2/24	N/A	CLAY - light tan, moderately plastic, grade to SANDY CLAY, light tan, saturated.		CL	8,15,17,28	
115	1/24	BKG	SANDY CLAY - light tan, fine.		CL	-,-,24,28	
	2/09	BKG	CLAYEY SAND - very little recovery, fine, very dense, saturated.		SC	50,50,-	
120			WOR = WEIGHT OF ROD				
125							
130							

TITLE: Naval Air Station Whiting Field		LOG of WELL: WHF-3-2D		BORING NO.	
CLIENT: SOUTHNAVFACENGCOM				PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.			DATE STARTED: 5/9/93		COMPLTD: 5/10/93
METHOD: MUD ROTARY		CASE SIZE: 2"		SCREEN INT.: 175-180 FT	
TOC ELEV.: 173.4 FT.		MONITOR INST.: FID/OVA		PROTECTION LEVEL: Modified D	
LOGGED BY: M. Liberman		TOT DPTH: 180FT.		DPTH TO ∇ 104.69 FT.	
WELL DEVELOPMENT DATE:			SITE: 3		

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
5					SEE WHF-3-2S FOR ADDITIONAL LITHOLOGICAL DESCRIPTIONS. SPOONS FOR WHF-3-2D WERE COLLECTED ONLY BELOW 118 FEET.		SP		
							ML		
10							ML		
							ML		
15							ML		
							ML		
20							SP		
							SP		
25							SP		
							SP		
30							SP		
							SP		
35							SP		
							SP		
40							SP		
							SP		
45							SP		
							SP		
50							SP		
							SP		
55							SP		
							SP		
60							SP		

TITLE: Naval Air Station Whiting Field		LOG of WELL: WHF-3-2D		BORING NO.	
CLIENT: SOUTHNAVAFACENGCOM				PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.			DATE STARTED: 5/9/93		COMPLTD: 5/10/93
METHOD: MUD ROTARY		CASE SIZE: 2"	SCREEN INT.: 175-180 FT		PROTECTION LEVEL: Modified D
TOC ELEV.: 173.4 FT.		MONITOR INST.: FID/OVA	TOT DPTH: 180FT.		DPTH TO ∇ 104.69 FT.
LOGGED BY: M. Liberman		WELL DEVELOPMENT DATE:			SITE: 3

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
Continued from PAGE 2								
		1/2		Same as above.				
127		1/2	6	Same as above, white to tan.		SP	17,26,25,35	
132		1.3/2	0	Same as above, white, no clay or silt.		SP	26,27,39,48	
137		0.8/2	0	Same as above (mud stained).		SP	20,29,24,40	
142		0.5/2	9	Same as above.		SP	28,38,50,ref	
147		0.8/2	18	Same as above, fine to medium grained.		SP	12,17,17,25	
152		1/2	7	Same as above.		SP	15,19,18,19	
157								
162		0.8/2	1.5	SAND - tan, medium to coarse grained, well graded, 2" reddish brown lense.		SP	28,40,45,50	
167								
172		1.4/2	5	SAND (6") - white to light pink, medium grained; bottom light brown, fine grained, some silt.		SP	30,41,49,43	
177		1/2	20	SAND - light tan, medium grained, well graded, some coarse, little to no silt, saturated.		SP	28,60,50,ref	
182								

TITLE: Naval Air Station Whiting Field				LOG of WELL: WHF-3-2S		BORING NO.	
CLIENT: SOUTHNAVFACENGCOM						PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.				DATE STARTED: 5/8/93		COMPLTD: 5/8/93	
METHOD: Hollow Stem Auger		CASE SIZE: 2"		SCREEN INT.: 100-115 FT		PROTECTION LEVEL: B, Modified D	
TOC ELEV.: 174.98 FT.		MONITOR INST.: FID		TOT DPTH: 115FT.		DPTH TO V: 101.37 FT.	
LOGGED BY: D. Wong		WELL DEVELOPMENT DATE:				SITE: 3	

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
			NA		SAND - tan, fine grained, some clay, little silt, medium dense, damp.		SP		
5			2/2	18	CLAYEY SAND/SANDY CLAY - red and light tan, fine grained, firm (stiff) low plasticity, little silt.		ML	2,1,7,9	
10			2/2	3	Same as above.		ML	1,4,7,9	
15			2/2	2	SANDY CLAY - light red brown, low plasticity, trace silt, firm (stiff) sand is white and fine grained.		ML	3,4,8,5	
20			1.5/2	2	Same as above.		ML	5,7,8,8	
25			1.2/2	0	Same as above (0.8'). SAND (0.8') - off-white, fine grained, no silt.		ML	3,14,8,7	
30			1.7/2	0	Same as above, little white clay, moist; white coarse sand lense at 31', sub-angular.		SP	8,7,8,7	
35			1.9/2	0	Same as above.		SP	2,8,7,9	
40				0			SP	5,5,7,9	



TITLE: Naval Air Station Whiting Field		LOG of WELL: WHF-3-2S	BORING NO.
CLIENT: SOUTHNAVFACENGCOM			PROJECT NO: RI PHASE IIA
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 5/8/93	COMPLTD: 5/8/93
METHOD: Hollow Stem Auger	CASE SIZE: 2"	SCREEN INT.: 100-115 FT	PROTECTION LEVEL: B, Modified D
TOC ELEV.: 174.98 FT.	MONITOR INST.: FID	TOT DPTH: 115FT.	DPTH TO ∇ 101.37 FT.
LOGGED BY: D. Wong	WELL DEVELOPMENT DATE:		SITE: 3

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
Continued from PAGE 1								
		1.3/2		Same as above, no pale red, significantly less clay.		SP		
45		1.2/2	0	Same as above.		SP	3,8,10,11	
50		2/2	0	Same as above, very fine grained, little to some coarse white sand.		SP	12,13,14,19	
55		1.1/2	1	Same as above, little coarse, off-white, sub-angular sand.		SP	11,12,14,19	
80		1.4/2	7	Same as above.		SP	12,14,19,28	
85		1.4/2	50	Same as above, pink, fine grained, some clay, slightly moist, color grades to off-white/light pale red (bottom 0.7').		SP	wr,wr,14,9	
70		1.1/2	100	SAND - off-white to very light grey, fine.		SP	12,19,22,24	
75		1.5/2	NA	Same as above.		SP	17,19,20,20	
80			0			SP	23,28,14,28	

TITLE: Naval Air Station Whiting Field		LOG of WELL: WHF-3-2S		BORING NO.	
CLIENT: SOUTHNAVFACENGCOM				PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.			DATE STARTED: 5/8/93		COMPLTD: 5/8/93
METHOD: Hollow Stem Auger		CASE SIZE: 2"		SCREEN INT.: 100-115 FT	
TOC ELEV.: 174.88 FT.		MONITOR INST.: FID		PROTECTION LEVEL: B, Modified D	
LOGGED BY: D. Wong		WELL DEVELOPMENT DATE:		DEPTH TO ∇: 101.37 FT.	
				SITE: 3	

DEPTH FT.	LABORATORY SAMPLE ID.	RECOVERY SAMPLE	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
				Continued from PAGE 2				
		18/2		Same as above, interbedded with light yellow and pink.		SP		
85		12/2	25	Same as above, yellow brown to off-white, some silt; 2" lense of silty clay (38"), red brown mottling, plastic, medium stiff.		SP	10,20,33,35	
90		15/2	100	Same as above, purple, yellow, tan, off-white and yellow brown mixture no lense.		SP	9,13,18,22	
95		18/2	80	SANDY CLAY/CLAYEY SAND (1') - same coloring as above, very low plasticity, semi firm (medium stiff). SAND - Same as 90 - 92".		SP	20,46,41,28	
100		17/2	85	Same as above, light brown to brown purple.		ML	12,8,6,10	
		17/2	40	SANDY CLAY - very light grey, red brown and yellow brown mottling, plastic, firm (stiff), saturated.			10,9,11,11	
105		16/2	4	CLAY - light grey, yellow brown mottling, little fine sand, trace silt plastic, firm, moist.			3,3,7,10	
		2/2	4	SANDY CLAY/SILTY CLAY - mottling as above, low plasticity, firm.			wr	
		2/2	5	Same as above, sandy clay.			3,4,12,18	
110		2/2	4	Same as above, some silt, 2 clay lenses (3" thick)			-3,11,12	
		2/2	9	Same as above, top 8" clay, plastic, little silt, trace sand.		ML/CL	6,7,8,8	
115		2/2	5	Same as above, increased clay content.		ML/SP	wr,12,21,19	
		NA	7	Same as above, yellow brown, stiff.			wr,8,13,25	
120								

TITLE: Naval Air Station Whiting Field		LOG of WELL: WHF-3-3D		BORING NO.
CLIENT: SOUTHNAVFACENGCOM			PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 5/4/93		COMPLTD: 5/12/93
METHOD: MUD ROTARY	CASE SIZE: 2"	SCREEN INT.: 170-180 FT	PROTECTION LEVEL: Modified D	
TOC ELEV.: 175.96 FT.	MONITOR INST.: FID	TOT DPTH: 180FT.	DPTH TO ∇ 108.03 FT.	
LOGGED BY: M. Liberman	WELL DEVELOPMENT DATE:		SITE: 3	

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
5									
10			0.2/2	0	SANDY CLAY - dark purple, fine grained, dark tan mottling, trace silt.		ML	5,9,16,18	
15									
20			1.9/2	0	SANDY CLAY - grey, fine grained, dark brown mottling, bottom 3" sand, orange brown, fine grained, trace silt.		ML/SP	6,8,8,12	
25									
30			0.7/2	0	SAND - off white, fine grained, no silt, firmly packed (dense).		SP	13,18,18,18	
35									
40				0			SP	9,12,14,19	



TITLE: Naval Air Station Whiting Field		LOG of WELL: WHF-3-3D	BORING NO.
CLIENT: SOUTHNAVFACENGCOM		PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 5/4/93	COMPLTD: 5/12/93
METHOD: MUD ROTARY	CASE SIZE: 2"	SCREEN INT.: 170-180 FT	PROTECTION LEVEL: Modified D
TOC ELEV.: 175.96 FT.	MONITOR INST.: FID	TOT DPTH: 180FT.	DPTH TO ∇ 108.03 FT.
LOGGED BY: M. Liberman	WELL DEVELOPMENT DATE:		SITE: 3

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
Continued from PAGE 1								
		0.8/2		Same as above.		SP		
45								
50		1.5/2	0	SAND - light brown, fine to medium grained, trace coarse; bottom 4" same as previous spoon, trace coarse grains.		SP	19,25,24,27	
55								
60		1/2	0	SAND (4") - light brown to brown, fine grained; bottom 6" off-white to pale red, firmly packed (dense).		SP	27,35,45,46	
65								
70		1.2/2	0	SAND - light brown, fine to medium grained, sub rounded, firmly packed 2" lense off-white.		SP	27,36,48,ref	
75								
80			0			SP	37,51,ref	

TITLE: Naval Air Station Whiting Field		LOG of WELL: WHF-3-3D		BORING NO.
CLIENT: SOUTHNAVFACENGCOM			PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 5/4/93		COMPLTD: 5/12/93
METHOD: MUD ROTARY	CASE SIZE: 2"	SCREEN INT.: 170-180 FT	PROTECTION LEVEL: Modified D	
TOC ELEV.: 175.96 FT.	MONITOR INST.: FID	TOT DPTH: 180FT.	DPTH TO ∇ 108.03 FT.	
LOGGED BY: M. Liberman	WELL DEVELOPMENT DATE:		SITE: 3	

DEPTH FT.	LABORATORY SAMPLE ID.	RECOVERY HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
Continued from PAGE 2							
85		0.8/2	SAND - pale orange to very light brown, fine grained, firmly packed, trace coarse, sub-rounded.		SP		
90		1.5/2	SAND - light brown to pale orange, fine to medium grained, very dense, trace coarse (sub-rounded and white).		SP	28,35,39,ref	
95							
100		1/2	Same as above, trace silt.		SP	42,ref	
105							
110		2/2	CLAY - orange yellow, some fine sand, light grey mottling, medium plasticity, little silt.		CL	9,12,16,17	
		1/2	Same as above.			12,18,22,19	
115							
120							

TITLE: Naval Air Station Whiting Field		LOG of WELL: WHF-3-3D	BORING NO.
CLIENT: SOUTHNAVFACENGCOM			PROJECT NO: RI PHASE IIA
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 5/4/93	COMPLTD: 5/12/93
METHOD: MUD ROTARY	CASE SIZE: 2"	SCREEN INT.: 170-180 FT	PROTECTION LEVEL: Modified D
TOC ELEV.: 175.96 FT.	MONITOR INST.: FID	TOT DPTH: 180FT.	DPTH TO ∇ 108.03 FT.
LOGGED BY: M. Liberman	WELL DEVELOPMENT DATE:		SITE: 3

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS Continued from PAGE 3	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
125			2/2	15	CLAY - light grey, red and light brown mottling, very plastic, bottom 1' dark red, with medium sand, slightly plastic.		CH	17,24,60,ref	
							OL		
130					No Data Available between 130 and 160 FT. BLS.				
135									
140									
145									
150									
155									
160									

TITLE: Naval Air Station Whiting Field		LOG of WELL: WHF-3-3D	BORING NO.
CLIENT: SOUTHNAVFACENGCOM		PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 5/4/93	COMPLTD: 5/12/93
METHOD: MUD ROTARY	CASE SIZE: 2"	SCREEN INT.: 170-180 FT	PROTECTION LEVEL: Modified D
TOC ELEV.: 175.96 FT.	MONITOR INST.: FID	TOT DPTH: 180FT.	DPTH TO ∇ 108.03 FT.
LOGGED BY: M. Liberman	WELL DEVELOPMENT DATE:		SITE: 3

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
Continued from PAGE 4								
		1.2/2	5.5	SAND - white, medium grained, poorly graded, trace gravel and clay pieces, saturated.		SP	35,28,32,41	
165		1.8/2	3.5	SAND (6") - white, coarse, well graded. 6" reddish brown, medium grained, poorly graded, some silt 1" grey clay. 6" reddish brown, fine to medium, poorly graded, some silt.		SP	wr,wr,30,50	
170		1.5/2	8.5	SAND - reddish brown, fine to medium grained, poorly graded, some silt		SP	28,23,27,27	
175		1.5/2	1.5	SAND - white, medium to fine grained, poorly graded, 1" gravel and silt layer.		SP	29,41,44,50	
180								
185								
190								
195								
200								

TITLE: Naval Air Station Whiting Field				LOG of WELL: WHF-3-3S		BORING NO.			
CLIENT: SOUTHNAVFACENGCOM						PROJECT NO: RI PHASE IIA			
CONTRACTOR: Groundwater Protection Inc.				DATE STARTED: 5/8/93		COMPLTD: 5/8/93			
METHOD: Hollow Stem Auger		CASE SIZE: 2"		SCREEN INT.: 100-110 FT		PROTECTION LEVEL: Modified D			
TOC ELEV.: 175.45 FT.		MONITOR INST.: FID		TOT DPTH: 112FT.		DPTH TO ∇ 104.38 FT.			
LOGGED BY: M. Liberman		WELL DEVELOPMENT DATE:				SITE: 3			
DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/8-IN	WELL DATA
5					SEE WHF-3-MW-3D FOR LITHOLOGICAL DESCRIPTIONS.				
10									
15									
20									
25									
30									
35									
40									

TITLE: Naval Air Station Whiting Field		LOG of WELL: WHF-3-3S		BORING NO.	
CLIENT: SOUTHNAVFACENGCOM				PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.			DATE STARTED: 5/8/93		COMPLTD: 5/8/93
METHOD: Hollow Stem Auger		CASE SIZE: 2"		SCREEN INT: 100-110 FT	
TOC ELEV.: 175.45 FT.		MONITOR INST.: FID		PROTECTION LEVEL: Modified D	
LOGGED BY: M. Liberman		WELL DEVELOPMENT DATE:		DEPTH TO ∇: 104.38 FT.	
				SITE: 3	

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS Continued from PAGE 1	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/8-IN	WELL DATA
45									
50									
55									
60									
65									
70									
75									
80									

TITLE: Naval Air Station Whiting Field		LOG of WELL: WHF-3-3S		BORING NO.	
CLIENT: SOUTHNAVFACENGCOM				PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.			DATE STARTED: 5/8/93		COMPLTD: 5/8/93
METHOD: Hollow Stem Auger		CASE SIZE: 2"		SCREEN INT: 100-110 FT	
TOC ELEV.: 175.45 FT.		MONITOR INST.: FID		TOT DPTH: 112FT.	
LOGGED BY: M. Liberman		WELL DEVELOPMENT DATE:			SITE: 3
PROTECTION LEVEL: Modified D					

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
Continued from PAGE 2									
85									
90									
95									
100									
105			2/2	NA	SAND - off-white to brown yellow, fine to medium, little silt and clay wet at 105', top 4" red brown.		SP	14,12,18,22	
			2/2	NA	Same as above (1.5'). CLAY (8") - off-white mottled yellow, purple brown and orange, stiff, medium plastic.		SP	wor	
110			1/2	NA	SAND - same as above.			22,30,24,25	
115									
120									

TITLE: Naval Air Station Whiting Field				LOG of WELL: WHF-3-4		BORING NO.	
CLIENT: SOUTHNAVFACENGCOM				PROJECT NO: RI PHASE IIA			
CONTRACTOR: Groundwater Protection Inc.				DATE STARTED: 7/28/93		COMPLTD: 7/31/93	
METHOD: MUD ROTARY		CASE SIZE: 2"		SCREEN INT.: III-121 FT		PROTECTION LEVEL: 0	
TOC ELEV.: 174.44 FT.		MONITOR INST.: OVA		TOT DPTH: 121 FT.		DPTH TO V. FT.	
LOGGED BY: G.Walker		WELL DEVELOPMENT DATE: N/A				SITE: 3	

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
		N/A		SAND - dark yellow orange, very fine to fine, dry, 6" organic rich layer at 3 feet.				
5		1.5/2	0	SAND - dark yellowish orange, very fine to fine, dry, bottom 3" moderate reddish brown with dark yellow mottling		SP	2,3,4,12	
10		1.8/2	0	Same as above, moderate reddish brown, medium dense, poorly graded, dry, trace clay.		SP	8,7,10,12	
15		1.8/2	0	Same as above, some pale yellow orange mottling.		SP	10,12,13,14	
20		1.5/2	0	Same as above, moderate orange pink, very pale orange mottling, medium dense, poorly graded, dry, trace clay.		SP	8,7,7,8	
25		1.8/2	0	Same as above		SP	8,10,12,14	
30		1.5/2	0	Same as above, bottom 1 foot very pale orange, poorly graded, dry.		SP	8,9,9,12	
35		1.9/2	0	Same as above.		SP	8,9,12,12	
40		1/2	0	Same as above.		SP	8,13,14,18	
45		1/2	0	Same as above, moist.		SP	13,20,22,28	
50		0.8/2	0	Same as above, sub-rounded, very dense, trace 1" size gravel, moist.		SP	20,22,28,31	
55		1.1/2	0	Same as above, greyish yellow, poorly graded, sub-rounded, very dense, moist, no gravel.		SP	21,28,38,41	
80		0.9/2	< 1	Same as above.		SP	28,28,28,31	
85			1			SP	21,31,38,34	

TITLE: Naval Air Station Whiting Field				LOG of WELL: WHF-3-4		BORING NO.	
CLIENT: SOUTHNAVFACENGCOM				PROJECT NO: RI PHASE IIA			
CONTRACTOR: Groundwater Protection Inc.				DATE STARTED: 7/28/93		COMPLTD: 7/31/93	
METHOD: MUD ROTARY		CASE SIZE: 2"		SCREEN INT.: 111-121 FT		PROTECTION LEVEL: 0	
TOC ELEV.: 174.44 FT.		MONITOR INST.: OVA		TOT DPTH: 121FT.		DPTH TO ∇ FT.	
LOGGED BY: G.Walker		WELL DEVELOPMENT DATE: N/A				SITE: 3	

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
Continued from PAGE 1								
		0.8/2		Same as above, moderate orange pink.		SP		
70		1/2	8	Same as above, greyish orange pink.		SP	41,48,50,55	
75		0.9/2	5.5	Same as above, with very pale orange layering.		SP	30,34,34,50	
80		0.8/2	20	Same as above top 8", over pale yellow orange sand.		SP	32,39,42,44	
85		1/2	8	Same as above.		SP	38,39,47,48	
90		0.9/2	20	Same as above, moderate reddish brown mottling.		SP	38,37,50,41	
95		0.8/2	5.5	Same as above, light red and pale orange layering, trace clay, moist.		SP	18,13,13,10	
100		1.9/2	1	Same as above top 8". CLAY - greenish grey, trace very fine sand, very stiff, slightly plastic, moist.		CL	14,17,18,20	
		2/2	< 1	Same as above.			12,14,14,17	
105		0	0	No recovery.		CL/SP	10,9,11,14	
		2/2	0	CLAY - pale red, little very fine to fine sand, hard, poorly graded, non plastic, moist.			6,12,18,24	
110		1.8/2	0	CLAY - Dark yellowish brown, hard, trace very fine sand, moist.			8,13,19,19	
		1.9/2	0			SP	7,14,28,32	
115		1.8/2	0	Same as above, top 18". SAND - very pale orange, fine to very fine, very dense, poorly graded, wet.			28,31,48,49	
				Same as above, moderate orange pink.				
120								
125								
130								

TITLE: Naval Air Station Whiting Field		LOG of WELL: WHF-3-7D		BORING NO.	
CLIENT: SOUTHNAVFACENGCOM				PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.			DATE STARTED: 5/22/93		COMPLTD: 5/25/93
METHOD: MUD ROTARY		CASE SIZE: 2"		SCREEN INT.: 175-180 FT	
TOC ELEV.: 173.44 FT.		MONITOR INST.: FID/OVA		PROTECTION LEVEL: D	
		TOT DPTH: 180FT.		DPTH TO ∇: 104.81 FT.	
LOGGED BY: M. Lieberman, E. Blomberg			WELL DEVELOPMENT DATE:		SITE: 3

DEPTH F.T.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/8-IN	WELL DATA
5					SEE WHF-3-2S FOR LOCAL LITHOLOGICAL DESCRIPTIONS.				
10									
15									
20									
25									
30									
35									
40									

TITLE: Naval Air Station Whiting Field		LOG of WELL: WHF-3-7D		BORING NO.	
CLIENT: SOUTHNAVFACENGCOM				PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.			DATE STARTED: 5/22/93		COMPLTD: 5/25/93
METHOD: MUD ROTARY		CASE SIZE: 2"		SCREEN INT.: 175-180 FT	
TOC ELEV.: 173.44 FT.		MONITOR INST.: FID/OVA		PROTECTION LEVEL: D	
TOT DPTH: 180FT.		DEPTH TO V: 104.81 FT.			
LOGGED BY: M. Lieberman, E. Blomberg			WELL DEVELOPMENT DATE:		SITE: 3

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/B-IN	WELL DATA
Continued from PAGE 1								
45		0.8/2.0	6.0	SAND - white, medium, poorly graded, wet.		SP	12,17,18,17	
50		1.0/2.0	0	Same As Above - at 0.8 ft a 1 in. lense of clay, gray, highly plastic.		SP	14,14,19,22	
55								
60		0.9/2.0	7	SAND - white, fine, poorly graded.		SP	9,10,14,12	
65								
70		1.0/2.0	20	Same As Above.		SP	17,22,29,41	
75								
80								

TITLE: Naval Air Station Whiting Field		LOG of WELL: WHF-3-7D		BORING NO.	
CLIENT: SOUTHNAVFACENGCOM				PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.			DATE STARTED: 5/22/93		COMPLTD: 5/25/93
METHOD: MUD ROTARY		CASE SIZE: 2"		SCREEN INT: 175-180 FT	
TOC ELEV.: 173.44 FT.		MONITOR INST.: FID/OVA		TOT DPTH: 180FT.	
LOGGED BY: M. Lieberman, E. Blomberg		WELL DEVELOPMENT DATE:			DEPTH TO ∇: 104.81 FT.
			SITE: 3		

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/8-IN	WELL DATA
Continued from PAGE 2								
			N/A	No Recovery			31,50,Refusl	
		0.0/2.0						
85								
90			22	SAND - purple to yellow and buff, medium to coarse, slightly moist.		SP	19,22,47,48	
		1.0/2.0						
95			1	SAND - purple and gray mottled, fine, some silt, moist.		SP	3,3,4,4	
		2.0/2.0						
		2.0/2.0	2.5	SAND - light brown, medium to coarse, well graded, little silt, Litho change at 1.5 ft Silty Clay - gray, slightly plastic, moist.			9,14,8,15	
100						CL		
		2.0/2.0	0.4	SILTY CLAY - gray to light purple, slightly plastic, dry.			7,8,9,10	
		2.0/2.0	0.4	Same As Above.			8,5,5,7	
		1.5/2.0						
105			0.2	Same As Above - Bottom .5 ft - CLAY - light red, highly plastic, fat.			4,7,9,12	
		2.0/2.0						
		2.0/2.0	0.2	CLAY - light red, highly plastic.			8,13,14,13	
		2.0/2.0	0.8	Same As Above.			9,13,17,18	
110								
115			18	SAND - yellow to off-white and pink, very fine to fine, some silt, poorly graded, moderately dense, moist.		SP	11,11,14,33	
		12/2.0						
120								

TITLE: Naval Air Station Whiting Field		LOG of WELL: WHF-3-7D	BORING NO.
CLIENT: SOUTHNAVFACENGCOM		PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 5/22/93	COMPLTD: 5/25/93
METHOD: MUD ROTARY	CASE SIZE: 2"	SCREEN INT: 175-180 FT	PROTECTION LEVEL: D
TOC ELEV.: 173.44 FT.	MONITOR INST.: FID/OVA	TOT DPTH: 180FT.	DPTH TO ∇: 104.81 FT.
LOGGED BY: M. Lieberman, E. Blomberg		WELL DEVELOPMENT DATE:	SITE: 3

DEPTH FT.	LABORATORY SAMPLE ID.	RECOVERY SAMPLE	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
Continued from PAGE 3								
125		0.0/2.0		No Recovery			50+ Refusal	
130		1.1/2.0	0	SAND - tan, fine to medium, poorly graded, dense, wet.		SP	23,33,34,43	
135								
140		1.1/2.0	4	Same As Above.		SP	28,31,33,38	
145								
150		1.4/2.0	20	SAND - tan to pink, fine to coarse, well graded, slightly dense, saturated.		SP	6,8,9,8	
155								
160								

TITLE: Naval Air Station Whiting Field		LOG of WELL: WHF-3-7D	BORING NO.
CLIENT: SOUTHNAVFACENGCOM		PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 5/22/93	COMPLTD: 5/25/93
METHOD: MUD ROTARY	CASE SIZE: 2"	SCREEN INT.: 175-180 FT	PROTECTION LEVEL: D
TOC ELEV.: 173.44 FT.	MONITOR INST.: FID/OVA	TOT DPTH: 180FT.	DPTH TO ∇ 104.81 FT.
LOGGED BY: M. Lieberman, E. Blomberg		WELL DEVELOPMENT DATE:	SITE: 3

DEPTH FT.	LABORATORY SAMPLE ID.	RECOVERY SAMPLE	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/8-IN	WELL DATA
Continued from PAGE 4								
185		1.1/2.0	28	SAND - pink, same as above.		SP	19,27,31,28	
170		1.9/2.0	8	SAND - light pink to tan, fine to medium, poorly graded, dense, saturated.		SP	28,24,21,21	
175		1.0/2.0	12	SAND - red, fine to coarse, well graded, dense, saturated.		SW	28,37,45,47	
180								
185								
190								
195								
200								

TITLE: Naval Air Station Whiting Field		LOG of WELL: WHF-3-7I	BORING NO.
CLIENT: SOUTHNAVFACENGCOM		PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 5/24/93	COMPLTD: 5/26/93
METHOD: MUD ROTARY	CASE SIZE: 2"	SCREEN INT.: 135-140 FT	PROTECTION LEVEL: D
TOC ELEV.: 173.45 FT.	MONITOR INST.: FID/OVA	TOT DPTH: 140FT.	DPTH TO ∇ 104.76 FT.
LOGGED BY: M. Lieberman	WELL DEVELOPMENT DATE:		SITE: 3

DEPTH F.T.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
5					SEE WHF-3-2S FOR LOCAL LITHOLOGICAL DESCRIPTIONS.				
10									
15									
20									
25									
30									
35									
40									
45									
50									

TITLE: Naval Air Station Whiting Field		LOG of WELL: WHF-3-7I	BORING NO.
CLIENT: SOUTHNAVFACENGCOM			PROJECT NO: RI PHASE IIA
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 5/24/93	COMPLTD: 5/26/93
METHOD: MUD ROTARY	CASE SIZE: 2"	SCREEN INT.: 135-140 FT	PROTECTION LEVEL: D
TOC ELEV.: 173.45 FT.	MONITOR INST.: FID/OVA	TOT DPTH: 140FT.	DPTH TO ∇ 104.76 FT.
LOGGED BY: M. Lieberman	WELL DEVELOPMENT DATE:		SITE: 3

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS Continued from PAGE 1	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
55									
60									
65									
70									
75									
80									
85									
90									
95									
100									

TITLE: Naval Air Station Whiting Field		LOG of WELL: WHF-3-71	BORING NO.
CLIENT: SOUTHNAVFACENGCOM		PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 5/24/93	COMPLTD: 5/26/93
METHOD: MUD ROTARY	CASE SIZE: 2"	SCREEN INT.: 135-140 FT	PROTECTION LEVEL: D
TOC ELEV.: 173.45 FT.	MONITOR INST.: FID/OVA	TOT DPTH: 140FT.	DPTH TO ∇ 104.76 FT.
LOGGED BY: M. Lieberman	WELL DEVELOPMENT DATE:		SITE: 3

DEPTH F.T.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS Continued from PAGE 2	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
105			2.0/2.0	0	CLAY - light brown to light gray, some silt, low plasticity. Bottom 0.5 ft, highly plastic.		CL	7,6,7,9	
			2.0/2.0	0	CLAY - purple to light brown to gray, little silt, highly plastic.			7,14,18,23	
110									
115									
120									
125									
130									
135			1.4/2.0	4	SAND - tan, fine to medium, poorly graded, dense to very dense, saturated.		SP	27,33,49,50+	
140									
145									
150									

TITLE: Naval Air Station Whiting Field				LOG of WELL: WHF-3-7S		BORING NO.			
CLIENT: SOUTHNAVFACENGCOM						PROJECT NO: RI PHASE IIA			
CONTRACTOR: Groundwater Protection Inc.				DATE STARTED: 6/03/93		COMPLTD: 6/13/93			
METHOD: MUD ROTARY		CASE SIZE: 2"		SCREEN INT.: 113-123 FT		PROTECTION LEVEL: D			
TOC ELEV.: 173.46 FT.		MONITOR INST.: FID/OVA		TOT DPTH: 125FT.		DPTH TO ∇ 104.96 FT.			
LOGGED BY: N. Roka		WELL DEVELOPMENT DATE:				SITE: 3			
DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
5					SEE WHF-3-2S FOR LOCAL LITHOLOGICAL DESCRIPTIONS.				
10									
15									
20									
25									
30									
35									
40									
45									
50									
55									
60									
65									

TITLE: Naval Air Station Whiting Field		LOG of WELL: WHF-3-7S	BORING NO.
CLIENT: SOUTHNAVFACENGCOM			PROJECT NO: RI PHASE IIA
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 6/03/93	COMPLTD: 6/13/93
METHOD: MUD ROTARY	CASE SIZE: 2"	SCREEN INT.: 113-123 FT	PROTECTION LEVEL: D
TOC ELEV.: 173.46 FT.	MONITOR INST.: FID/OVA	TOT DPTH: 125FT.	DPTH TO ∇ 104.96 FT.
LOGGED BY: N. Roka	WELL DEVELOPMENT DATE:		SITE: 3

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS Continued from PAGE 1	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
70									
75									
80									
85									
90									
95									
100									
105									
110				N/A	NO RECOVERY		CH	8,10,16,20	
		00/24		BKG	CLAY - light tan with gray mottled, red streaks, low plasticity, stiff, damp, little silt.		CL	10,12,15,21	
		24/24		BKG			SC	15,17,17,22	
		24/24		7	CLAYEY SAND - gray with some mottle brown, fine, firm, moderately dense, moist to wet.		SP	22,22,30,24	
		21/24			SILTY SAND - light tan, fine, dense, saturated, subrounded.				
120									
125									
130									

TITLE: Naval Air Station Whiting Field		LOG of WELL: WHF-5-8D	BORING NO.
CLIENT: SOUTHNAVFACENGCOM			PROJECT NO: RI PHASE IIA
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 4/23/93	COMPLTD: 4/24/93
METHOD: Mud Rotary	CASE SIZE: 2"	SCREEN INT.: 169.5' - 179.5'	PROTECTION LEVEL: Modified D
TOC ELEV.: 178.00 FT.	MONITOR INST.: FID	TOT DPTH: 179.5FT.	DPTH TO ∇ 111.99 FT.
LOGGED BY: S. Consalvi	WELL DEVELOPMENT DATE:		SITE: 5

DEPTH F.T.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
5					SEE WHF-5-8S FOR LITHOLOGICAL DATA.				
10									
15									
20									
25									
30									
35									
40									
45									

TITLE: Naval Air Station Whiting Field		LOG of WELL: WHF-5-8D		BORING NO.	
CLIENT: SOUTHNAVFACENGCOM				PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.			DATE STARTED: 4/23/93		COMPLTD: 4/24/93
METHOD: Mud Rotary		CASE SIZE: 2"	SCREEN INT.: 169.5' - 179.5'		PROTECTION LEVEL: Modified D
TOC ELEV.: 178.00 FT.		MONITOR INST.: FID	TOT DPTH: 179.5 FT.		DPTH TO ∇ 111.99 FT.
LOGGED BY: S. Consalvi		WELL DEVELOPMENT DATE:			SITE: 5

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS Continued from PAGE 1	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
50									
55									
60									
65									
70									
75									
80									
85									
90									

TITLE: Naval Air Station Whiting Field		LOG of WELL: WHF-5-8D		BORING NO.
CLIENT: SOUTHNAVFACENGCOM			PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 4/23/93		COMPLTD: 4/24/93
METHOD: Mud Rotary	CASE SIZE: 2"	SCREEN INT.: 169.5' - 179.5'		PROTECTION LEVEL: Modified D
TOC ELEV.: 178.00 FT.	MONITOR INST.: FID	TOT DPTH: 179.5 FT.		DPTH TO ∇ 111.99 FT.
LOGGED BY: S. Consalvi	WELL DEVELOPMENT DATE:		SITE: 5	

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS Continued from PAGE 2	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
95									
100									
105									
110									
115									
120									
125									
130			1.6/2	NA	CLAYEY SAND/SANDY CLAY (interbedded) - maroon interbedded with yellow orange and light yellow, fine grained, trace to no silt, (Top 1.4'); saturated; over sand, off white, fine grained.	— — — —	SC	14,36,38,30	
135				NA			SP	22,26,31,29	

TITLE: Naval Air Station Whiting Field		LOG of WELL: WHF-5-8D		BORING NO.	
CLIENT: SOUTHNAVFACENGCOM				PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.			DATE STARTED: 4/23/93		COMPLTD: 4/24/93
METHOD: Mud Rotary		CASE SIZE: 2"	SCREEN INT.: 169.5' - 179.5' PROTECTION LEVEL: Modified D		
TOC ELEV.: 178.00 FT.		MONITOR INST.: FID	TOT DPTH: 179.5FT.		DPTH TO ∇ 111.99 FT.
LOGGED BY: S. Consalvi		WELL DEVELOPMENT DATE:			SITE: 5

DEPTH F.T.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
Continued from PAGE 3								
		0.9/2		SAND - v. pale red to light tan, fine grained dry, firmly packed, poorly graded, wet.		SP		
140		0.8/2	NA	SAND - red to pale red, fine and very fine grains, poorly graded, wet.		SP	27,28,33,37	
145								
150		0.5/2	NA	SAND - pale orange, fine grained, dense, trace gravel, wet.		SP	37,39,42,38	
155		0.8/2	NA	Same as above (0.4'), V. pale red, no gravel over CLAYEY SAND (0.4'), V. pale grey with interbedded red layers.		SP	42,49,50,R	
160								
165			NA	SAND - v. pale red and pale red, fine to medium grained, overlain by medium to coarse sand, wet.		SP	18,19,22,15	
170		0.6/2	NA	SAND - light tan, fine grained, sub-rounded, trace red consolidated silt (pockets).		SP	38,50,40,42	
175			NA	Same as above, light tan to baige, trace coarse sand.		SP	41,48,>50	
180								

TITLE: Naval Air Station Whiting Field				LOG of WELL: WHF-5-8S		BORING NO.	
CLIENT: SOUTHNAVFACENGCOM						PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.				DATE STARTED: 3/21/93		COMPLTD: 3/23/93	
METHOD: Hollow Stem Auger		CASE SIZE: 2"		SCREEN INT.: 110' - 125'		PROTECTION LEVEL: D	
TOC ELEV.: 177.73 FT.		MONITOR INST.: FID/OVA		TOT DPTH: 125FT.		DPTH TO ∇ 110.91 FT.	
LOGGED BY: Richard Nelson		WELL DEVELOPMENT DATE:				SITE: 5	

DEPTH FT.	LABORATORY SAMPLE ID.	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
5		20/24	0	SAND - light brown, fine to medium, poorly graded, moist, trace silt.		SP	2,3,8,7	
10		24/24	0	SAND - reddish brown and light brown, fine to medium, poorly graded, slightly moist, trace silt.		SP	4,6,12,12	
15		24/24	NA	CLAY - grey and pinkish red, stiff, plastic, dry.		CH	6,7,10,17	
20		14/24	0	Same as above (Top 6'), wet. SAND - white, fine, poorly graded, with thin orange lamina, dry.		CH/SP	4,7,9,12	
25		6/24	0	SAND - grey, yellow and tan, fine, poorly graded, wet.		SP	7,6,6,10	
30		12/24	0	SAND - white, fine, 1/2' yellow band at 31', dry.		SP	7,11,10,11	
35		18/24	0	CLAY (Top 4")- grey, stiff, plastic, trace sand. SAND - white, fine, poorly graded, dry.		CH/SP	9,8,7,9	
40		16/24	0	Same as above.		SP	10,9,10,9	
45			0			SP	8,8,8,9	

TITLE: Naval Air Station Whiting Field		LOG of WELL: WHF-5-8S	BORING NO.
CLIENT: SOUTHNAVFACENGCOM			PROJECT NO: RI PHASE IIA
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 3/21/93	COMPLTD: 3/23/93
METHOD: Hollow Stem Auger	CASE SIZE: 2"	SCREEN INT.: 110' - 125'	PROTECTION LEVEL: D
TOC ELEV.: 177.73 FT.	MONITOR INST.: FID/OVA	TOT DPTH: 125FT.	DPTH TO ∇ 110.91 FT.
LOGGED BY: Richard Nelson	WELL DEVELOPMENT DATE:		SITE: 5

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
Continued from PAGE 1									
		12/24			SAND - white, fine, poorly graded.		SP		
50		12/24		0	Same as above, with pink, yellow and reddish orange banding.		SP	10,14,14,18	
55		14/24		0	SAND - pink and white banded, fine to medium, poorly graded, dry.		SP	10,15,14,19	
60		20/24		0			SP	7,6,12,15	
65		16/24		0	SAND - white, fine, poorly graded, dry.		SP	7,10,14,20	
70		18/24		0	Same as above.		SP	12,14,12,15	
75		20/24		0	Same as above.		SP	17,28,40,52	
80		18/24		0	Same as above, with reddish brown and yellow banding.		SP	18,28,32,34	
85		20/24		0	SAND - white, fine, poorly graded, dry.		SP	17,18,24,27	
90				0			SP	22,19,22,37	

TITLE: Naval Air Station Whiting Field		LOG of WELL: WHF-5-8S	BORING NO.
CLIENT: SOUTHNAVFACENGCOM		PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 3/21/93	COMPLTD: 3/23/93
METHOD: Hollow Stem Auger	CASE SIZE: 2"	SCREEN INT.: 110' - 125'	PROTECTION LEVEL: D
TOC ELEV.: 177.73 FT.	MONITOR INST.: FID/OVA	TOT DPTH: 125FT.	DPTH TO ∇ 110.91 FT.
LOGGED BY: Richard Nelson	WELL DEVELOPMENT DATE:		SITE: 5

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
Continued from PAGE 2								
		18/24		Same as above.		SP		
95		20/24	0	SAND - yellow brown, fine to medium, poorly graded, dry.		SP	18,22,26,34	
100		12/24	0	SAND - pink, yellow and white, medium, poorly graded, trace coarse sand, moist.		SP	14,15,12,14	
105		18/24	0	SAND - banded light pink, white, yellow and light purple, dry.		SP	10,12,17,17	
110		20/24	1	Same as above, pink and white, moist.		SP	10,8,10,20	
115		24/24	1	SAND - white, fine ,wet, top 12 " over 12" yellow, medium grained, poorly graded, wet.		SP	3,5,14,18	
120		24/24	0	Same as above, tan.		SP	14,16,16,14	
125		24/24	0	Same as above.		SP	6,15,18,17	
130								
135								

TITLE: Naval Air Station Whiting Field		LOG of WELL: WHF-5-9D	BORING NO.
CLIENT: SOUTHNAVAFACENGCOM		PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 4/21/93	COMPLTD: 4/22/93
METHOD: MUD ROTARY	CASE SIZE: 2"	SCREEN INT.: 170' - 180'	PROTECTION LEVEL: Modified D
TOC ELEV.: 176.35 FT.	MONITOR INST.: FID/OVA	TOT DPTH: 180 FT.	DPTH TO ∇ 111.47 FT.
LOGGED BY: G. Kanchibhatla	WELL DEVELOPMENT DATE:		SITE: 5

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
5				0					
10				0					
15				3					
20				1					
25			1/1	0	SAND - pink and white, very fine to fine.		SP	2,2,6,13	
30			1.7/2	0	CLAYEY SAND (4") - low plasticity. SAND - white, fine, poorly graded.		SP	14,16,23,28	
35			1.5/2	0	Same as above.		SP	11,13,17,20	
40				0			SP	5,19,22,27	

TITLE: Naval Air Station Whiting Field		LOG of WELL: WHF-5-9D	BORING NO.
CLIENT: SOUTHNAVFACENGCOM			PROJECT NO: RI PHASE IIA
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 4/21/93	COMPLTD: 4/22/93
METHOD: MUD ROTARY	CASE SIZE: 2"	SCREEN INT.: 170' - 180'	PROTECTION LEVEL: Modified D
TOC ELEV.: 176.35 FT.	MONITOR INST.: FID/OVA	TOT DPTH: 180FT.	DPTH TO ∇ 111.47 FT.
LOGGED BY: G. Kanchibhatla	WELL DEVELOPMENT DATE:		SITE: 5

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
				Continued from PAGE 1				
		1.3/2		Same as above.		SP		
45		1.3/2	0	Same as above.		SP	5,17,14,19	
50		1.5/2	0	Same as above.		SP	6,12,15,21	
55		1.3/2	0	Same as above.		SP	9,18,18,22	
60		1.5/2	0	Same as above.		SP	5,13,19,23	
65		1.7/2	0	Same as above.		SP	14,20,23,27	
70		1.7/2	1	Same as above (Top 10"). CLAY (5") - gray, medium plasticity. SAND (5") - white and pink, fine.		SP	12,9,20,23	
75		1.7/2	2	Same as above.		SP	19,23,27,30	
80			2			SP	19,24,27,35	

TITLE: Naval Air Station Whiting Field		LOG of WELL: WHF-5-9D	BORING NO.
CLIENT: SOUTHNAVFACENGCOM			PROJECT NO: RI PHASE IIA
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 4/21/93	COMPLTD: 4/22/93
METHOD: MUD ROTARY	CASE SIZE: 2"	SCREEN INT.: 170' - 180'	PROTECTION LEVEL: Modified D
TOC ELEV.: 176.35 FT.	MONITOR INST.: FID/OVA	TOT DPTH: 180FT.	DPTH TO ∇ 111.47 FT.
LOGGED BY: G. Kanchibhatla	WELL DEVELOPMENT DATE:		SITE: 5

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
Continued from PAGE 2								
		1.5/2		Same as above.		SP		
85		1.7/2	0	SAND - white and pink, very fine to fine, trace silt.		SP	12,20,17,26	
90		1.5/2	0	Same as above - yellow.		SP	WR,WR,31,29	
95		1.3/2	0	Same as above - yellow to white, wet.		SP	WR,WR,29,33	
100		1.8/2	0	Same as above.		SP	17,19,27,28	
105		2/2	0	CLAY - brown, stiff to medium stiff, wet.		CL	2,4,6,8	
		2/2	0				4,6,8,9	
110		2/2	0	CLAY - dark grey, stiff, plastic, moiste.		CH	Pushed	
		2/2	0	Same as above (1'). CLAY - light orange with burgandy and light tan mottling, stiff, plastic, moiste				
115		1.2/2	0	Same as above, trace silt, less stiff.		CH	4,6,8,10	
		2/2	0	Same as above, some silt, stiff, trace gravel and consolidated silt (color is same as clay).			9,15,14,16	
120			0			SP	14,19,24,16	

TITLE: Naval Air Station Whiting Field		LOG of WELL: WHF-5-9D	BORING NO.
CLIENT: SOUTHNAVFACENGCOM			PROJECT NO: RI PHASE IIA
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 4/21/93	COMPLTD: 4/22/93
METHOD: MUD ROTARY	CASE SIZE: 2"	SCREEN INT.: 170' - 180'	PROTECTION LEVEL: Modified D
TOC ELEV.: 176.35 FT.	MONITOR INST.: FID/OVA	TOT DPTH: 180FT.	DPTH TO ∇ III.47 FT.
LOGGED BY: G. Kanchibhatla	WELL DEVELOPMENT DATE:		SITE: 5

DEPTH F.T.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
Continued from PAGE 3								
		0.7/2		SAND - off-white to pink, fine, poorly graded, light brown layering, trace silt, saturated.		SP		
125								
130		1/2	0	Same as above, with 2 " thick clay layer (appx. 130' deep), same clay as 117'.		SP	21,28,26,31	
135								
140		0.8/2	0	SAND - off-white to light brown, fine to medium grained, trace to no silt, angular.		SP	18,26,29,29	
145								
150		1/2	0	Same as above, bottom 2" light orange.		SP	37,39,43,52	
155								
160			0			SP	37,33,42,49	

TITLE: Naval Air Station Whiting Field		LOG of WELL: WHF-5-9D	BORING NO.
CLIENT: SOUTHNAVFACENGCOM		PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 4/21/93	COMPLTD: 4/22/93
METHOD: MUD ROTARY	CASE SIZE: 2"	SCREEN INT.: 170' - 180'	PROTECTION LEVEL: Modified D
TOC ELEV.: 176.35 FT.	MONITOR INST.: FID/OVA	TOT DPTH: 180FT.	DPTH TO ∇ 111.47 FT.
LOGGED BY: G. Kanchibhatla	WELL DEVELOPMENT DATE:		SITE: 5

DEPTH F.T.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
Continued from PAGE 4								
		1.2/2		Same as above (10"), light pink to off-white, overlaid by clay (4") light grey to off-white, trace orange mottles, some silt in small lenses, stiff, plastic.		SP		
165								
170		1.4/2	0	SAND - light tan to light brown, fine to medium, sub-rounded to sub-angular, some coarse sand (bottom 4"), white, sub-rounded.		SP	24,26,23,27	
175		1.4/2	0	SAND - light tan to light brown, fine grained, trace fines, dense, some coarse sand, white, red, sub-angular.		SP	36,51,-,-	
180								
185								
190								
195								
200								

TITLE: Naval Air Station Whiting Field				LOG of WELL: WHF-5-9S		BORING NO.	
CLIENT: SOUTHNAVFACENGCOM						PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.				DATE STARTED: 4/22/93		COMPLTD: 4/25/93	
METHOD: MUD ROTARY		CASE SIZE: 2"		SCREEN INT.: 119-129'		PROTECTION LEVEL: Modified D	
TOC ELEV.: 175.83 FT.		MONITOR INST.: FID/OVA		TOT DPTH: 131FT.		DPTH TO ∇ 111.47 FT.	
LOGGED BY: G. Kanchibhatla		WELL DEVELOPMENT DATE:				SITE: 5	
DEPTH FT.	LABORATORY SAMPLE ID.	RECOVERY HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS		LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN
5			SEE WHF-5-9D FOR LITHOLOGICAL DESCRIPTIONS.				
10							
15							
20							
25							
30							
35							
40							
45							

TITLE: Naval Air Station Whiting Field		LOG of WELL: WHF-5-9S		BORING NO.
CLIENT: SOUTHNAVFACENGCOM			PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 4/22/93		COMPLTD: 4/25/93
METHOD: MUD ROTARY	CASE SIZE: 2"	SCREEN INT.: 119-129'	PROTECTION LEVEL: Modified D	
TOC ELEV.: 175.83 FT.	MONITOR INST.: FID/OVA	TOT DPTH: 131 FT.	DPTH TO ∇ 111.47 FT.	
LOGGED BY: G. Kanchibhatla	WELL DEVELOPMENT DATE:		SITE: 5	

DEPTH F.T.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS Continued from PAGE 1	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
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50									
55									
60									
65									
70									
75									
80									
85									
90									

TITLE: Naval Air Station Whiting Field		LOG of WELL: WHF-5-9S	BORING NO.
CLIENT: SOUTHNAVFACENGCOM		PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 4/22/93	COMPLTD: 4/25/93
METHOD: MUD ROTARY	CASE SIZE: 2"	SCREEN INT.: 119-129'	PROTECTION LEVEL: Modified D
TOC ELEV.: 175.83 FT.	MONITOR INST.: FID/OVA	TOT DPTH: 131FT.	DPTH TO ∇ 111.47 FT.
LOGGED BY: G. Kanchibhatla	WELL DEVELOPMENT DATE:		SITE: 5

DEPTH F.T.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS Continued from PAGE 2	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
95									
100									
105									
110									
115									
120		2.0/2.0		0	SAND - yellow-orange to pale yed, fine, tract silt, moderately dense, saturated.		SP	22,38,49,26	
125		2.0/2.0		N/A	SAND - SAA, fine saturated, lenses sandy clay, plastic; moist, mottled		SP	12,14,32,46	
130									
135									

TITLE: Naval Air Station Whiting Field		LOG of WELL: WHF-5-10D	BORING NO.
CLIENT: SOUTHNAVFACENGCOM		PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 4/11/93	COMPLTD: 4/12/93
METHOD: MUD ROTARY	CASE SIZE: 2"	SCREEN INT.: 170-180 FT	PROTECTION LEVEL: D
TOC ELEV.: 184.55 FT.	MONITOR INST.: FID/OVA	TOT DPTH: 180.5FT.	DPTH TO ∇ 121.37 FT.
LOGGED BY: G. Kanchibhatla	WELL DEVELOPMENT DATE:		SITE: 5

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
5				N/A	SEE WHF-5-10S FOR ADDITIONAL LITHOLOGICAL DESCRIPTIONS.				
10									
15									
20									
25									
30									
35									
40									
45									

TITLE: Naval Air Station Whiting Field		LOG of WELL: WHF-5-10D	BORING NO.
CLIENT: SOUTHNAVFACENGCOM		PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 4/11/93	COMPLTD: 4/12/93
METHOD: MUD ROTARY	CASE SIZE: 2"	SCREEN INT.: 170-180 FT	PROTECTION LEVEL: D
TOC ELEV.: 184.55 FT.	MONITOR INST.: FID/OVA	TOT DPTH: 180.5FT.	DPTH TO ∇ 121.37 FT.
LOGGED BY: G. Kanchibhatla	WELL DEVELOPMENT DATE:		SITE: 5

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
Continued from PAGE 1									
51									
56									
61									
66									
71									
76									
81									
86									
91									

TITLE: Naval Air Station Whiting Field		LOG of WELL: WHF-5-10D		BORING NO.	
CLIENT: SOUTHNAVFACENGCOM				PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.			DATE STARTED: 4/11/93		COMPLTD: 4/12/93
METHOD: MUD ROTARY		CASE SIZE: 2"	SCREEN INT.: 170-180 FT		PROTECTION LEVEL: D
TOC ELEV.: 184.55 FT.		MONITOR INST.: FID/OVA	TOT DPTH: 180.5FT.		DPTH TO ∇ 121.37 FT.
LOGGED BY: G. Kanchibhatla		WELL DEVELOPMENT DATE:			SITE: 5

DEPTH F.T.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS Continued from PAGE 2	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
97									
102									
107									
112									
117									
122		24/24	0/0		CLAY - black, medium stiff, plastic.		CH	5,7,7,12	
		24/24	0/0		Same as above, dark gray.			10,10,10,15	
		24/24	0/0		Same as above, olive gray.			10,8,10,11	
		24/24	0/0		Same as above, olive gray, trace sand, very fine.			7,6,9,11	
127		24/24	0/<1		CLAY - pale yellowish orange and purple, mottled, medium stiff, lenses of very fine sand.			7,8,9,12	
		24/24	0/0		Same as above.			5,5,8,12	
132		18/24	0/2.5		SAND - fine.		SP	21,28,31,31	
					SAND - reddish brown to yellowish orange, pinkish white on bottom, fine to trace medium, poorly graded, saturated.				
137									

TITLE: Naval Air Station Whiting Field		LOG of WELL: WHF-5-10D	BORING NO.
CLIENT: SOUTHNAVFACENGCOM		PROJECT NO: R1 PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 4/11/93	COMPLTD: 4/12/93
METHOD: MUD ROTARY	CASE SIZE: 2"	SCREEN INT.: 170-180 FT	PROTECTION LEVEL: D
TOC ELEV.: 184.55 FT.	MONITOR INST.: FID/OVA	TOT DPTH: 180.5FT.	DPTH TO ∇ 121.37 FT.
LOGGED BY: G. Kanchibhatla	WELL DEVELOPMENT DATE:		SITE: 5

DEPTH FT.	LABORATORY SAMPLE ID.	RECOVERY SAMPLE	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
Continued from PAGE 3								
		22/24	0/0	SAND - light tan, medium to trace coarse, poorly graded, saturated.		SP	20,17,14,?	
143				CLAY - yellowish orange to pale purple, mottle with yellowish orange, fine sand lenses (<1").				
		00/24	NA	SAND - pinkish white, fine to trace medium, poorly graded, saturated.			19,86,94,92	
148				NO RECOVERY				
		16/24	0/<1	SAND - light tan to pinkish white, fine to medium, trace coarse, poorly graded, saturated.		SP	20,20,21,26	
153								
		24/24	0/0	SANDY CLAY - gray and pink mottling.		SC	5,23,31,32	
158				CLAYEY SAND - light pink to gray.		SP		
				SAND - pinkish white, very fine to fine, poorly graded, saturated.				
		3/24	0/0	SAND - light tan, fine, poorly graded, saturated.		SP	25,38,40,49	
163								
		8/24	0/<1	Same as above.		SP	32,54,50,?	
168								
		8/24	0/7	SAND - tan, fine, poorly graded, saturated.		SP	17,17,29,22	
173				SAND - silt, fine to coarse, well graded, saturated.				
		18/24	0/0	SAND - tan, fine, poorly graded, saturated.		SP	23,40,36,32	
178								
183								

TITLE: Naval Air Station Whiting Field		LOG of WELL: WHF-5-10S	BORING NO.
CLIENT: SOUTHNAVFACENGCOM			PROJECT NO: RI PHASE IIA
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 4/13/93	COMPLTD: 4/25/93
METHOD: MUD ROTARY	CASE SIZE: 2"	SCREEN INT.: 130-140 ft.	PROTECTION LEVEL: D
TOC ELEV.: 184.21 FT.	MONITOR INST.: FID/OVA	TOT DPTH: 140 FT.	DPTH TO ∇ 121.03 FT.
LOGGED BY: G. Kanchibhatla	WELL DEVELOPMENT DATE:		SITE: 5

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
5		20/24	0	SAND - reddish brown, fine, silty, low plasticity.		SP	3,4,4,3	
10		22/24	0	Same as above.		SP	3,3,3,5	
15		18/24	0	Same as above.		SP	1,6,5,9	
20		20/24	0	Same as above.		SP	4,6,8,7	
25		22/24	0	Same as above, more coarse sand, less silt.		SP	6,8,13,14	
30		18/24	0	SILTY SAND (Top 3") - white, fine, wet. SILTY CLAY (6") - purple, low plasticity. SILTY SAND (9") - white and pink, very fine grained, dry.		SP	5,4,14,17	
35		18/24	0	CLAY (TOP 6") - grey, very plastic. SAND (12") - white and reddish brown, medium to fine grained.		SP	8,12,15,15	
40			0			SP	13,13,11,10	

TITLE: Naval Air Station Whiting Field		LOG of WELL: WHF-5-10S		BORING NO.
CLIENT: SOUTHNAVFACENGCOM			PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 4/13/93		COMPLTD: 4/25/93
METHOD: MUD ROTARY	CASE SIZE: 2"	SCREEN INT.: 130-140 ft.	PROTECTION LEVEL: D	
TOC ELEV.: 184.21 FT.	MONITOR INST.: FID/OVA	TOT DPTH: 140FT.	DPTH TO ∇ 121.03 FT.	
LOGGED BY: G. Kanchibhatla		WELL DEVELOPMENT DATE:		SITE: 5

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
Continued from PAGE 1								
		20/24		SAND - light purple, fine grained, little silt. SILTY CLAY (16") - low plasticity.		SP		
45		24/24	0	SAND - grey and purple, fine to very fine grained, silty.		SP	5,12,10,13	
50		15/24	0	Same as above.		SP	5,17,10,12	
55		18/24	0	Same as above.		SP	10,13,17,20	
60		16/24	0	Same as above, no silt, trace gravel.		SP	10,13,16,15	
65		18/24	0	Same as above, with silt.		SP	9,14,17,16	
70		18/24	0	Same as above, no silt.		SP	9,15,23,26	
75		15/24	1	Same as above.		SP	14,28,26,25	
80						SP	12,23,40,44	

TITLE: Naval Air Station Whiting Field		LOG of WELL: WHF-5-10S	BORING NO.
CLIENT: SOUTHNAVFACENGCOM		PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 4/13/93	COMPLTD: 4/25/93
METHOD: MUD ROTARY	CASE SIZE: 2"	SCREEN INT.: 130-140 ft.	PROTECTION LEVEL: D
TOC ELEV.: 184.21 FT.	MONITOR INST.: FID/OVA	TOT DPTH: 140FT.	DPTH TO ∇ 121.03 FT.
LOGGED BY: G. Kanchibhatla	WELL DEVELOPMENT DATE:		SITE: 5

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
Continued from PAGE 2								
		18/24		Same as above.		SP		
85		18/24		Same as above.		SP	13,30,32,50	
90		16/24		CLAY (Top 3 ") - grey, medium plasticity. SAND (13") - Same as 85' to 87' interval.		SP	12,25,32,28	
						SP		
95		18/24	0	SAND - white, fine grained, poorly graded, dry.			14,17,19,24	
100		18/24	0	Same as above.		SP	11,17,19,23	
105		18/24	0	Same as above (Top 10"), moist over reddish pink (6").		SP	12,9,14,12	
110		0/24	NA	No Recovery			3,5,11,11	
115		18/24	0	CLAY - black, medium stiff, plastic.		CH	10,10,10,12	
		20/24	0	Same as above.		CH	11,10,11,12	
120								

TITLE: Naval Air Station Whiting Field		LOG of WELL: WHF-5-10S	BORING NO.
CLIENT: SOUTHNAVFACENGCOM		PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 4/13/93	COMPLTD: 4/25/93
METHOD: MUD ROTARY	CASE SIZE: 2"	SCREEN INT.: 130-140 ft.	PROTECTION LEVEL: D
TOC ELEV.: 184.21 FT.	MONITOR INST.: FID/OVA	TOT DPTH: 140FT.	DPTH TO ∇ 121.03 FT.
LOGGED BY: G. Kanchibhatla	WELL DEVELOPMENT DATE:		SITE: 5

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS Continued from PAGE 3	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
125									
130		18/24	0		CLAY (I') - dark olive grey, soft, plastic, wet, little silt. CLAYEY SAND - brownish red interbedded with off white, pale red purple and pale yellow, trace silt.		CH	22,28,36,31	
135		12/24	0		SAND - light tan to very pale red, fine grained, trace silt, saturated.		SP	27,22,26,23	
140									
145									
150									
155									
160									

TITLE: Naval Air Station Whiting Field		LOG of WELL: WHF-6-1D		BORING NO.	
CLIENT: SOUTHNAVFACENGCOM				PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.			DATE STARTED: 5/7/93		COMPLTD: 5/19/93
METHOD: MUD ROTARY		CASE SIZE: 2"		SCREEN INT.: 175-180 FT.	
TOC ELEV.: 177.79 FT.		MONITOR INST.: FID		PROTECTION LEVEL: Modified D	
LOGGED BY: S. Consalvi		TOT DPTH: 180FT.		DPTH TO ∇ 116.44 FT.	
WELL DEVELOPMENT DATE:			SITE: 6		

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
5					SEE WHF-6-SB-3 FOR LITHOLOGICAL DESCRIPTIONS.				
10									
15									
20									
25									
30									
35									
40									
45									

TITLE: Naval Air Station Whiting Field		LOG of WELL: WHF-6-10		BORING NO.	
CLIENT: SOUTHNAVFACENGCOM				PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.			DATE STARTED: 5/7/93		COMPLTD: 5/19/93
METHOD: MUD ROTARY		CASE SIZE: 2"	SCREEN INT.: 175-180 FT.		PROTECTION LEVEL: Modified D
TOC ELEV.: 177.79 FT.		MONITOR INST.: FID	TOT DPTH: 180FT.		DPTH TO ∇ 116.44 FT.
LOGGED BY: S. Consalvi		WELL DEVELOPMENT DATE:			SITE: 6

DEPTH FT.	LABORATORY SAMPLE ID.	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
Continued from PAGE 1								
51								
56								
61								
66								
71								
76								
81								
86								
91		18/24	0	SAND - greyish pink, fine, moderate red orange banding, poorly graded.		SP	23,32,38,50	

TITLE: Naval Air Station Whiting Field		LOG of WELL: WHF-6-1D	BORING NO.
CLIENT: SOUTHNAVFACENGCOM		PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 5/7/93	COMPLTD: 5/19/93
METHOD: MUD ROTARY	CASE SIZE: 2"	SCREEN INT.: 175-180 FT.	PROTECTION LEVEL: Modified D
TOC ELEV.: 177.79 FT.	MONITOR INST.: FID	TOT DPTH: 180FT.	DPTH TO ∇ 116.44 FT.
LOGGED BY: S. Consalvi	WELL DEVELOPMENT DATE:		SITE: 6

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS Continued from PAGE 2	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
97		12/24	0	Same as above, very pale orange, dark yellowish brown banding.		SP	16,17,35,41	
102		14/24	0	SAND - greyish orange, light brown and dark yellowish orange (top 8"), slightly moist; bottom 8" very pale orange with light brown and dark yellowish orange banding.		SP	12,25,35,38	
107		18/24	0	SAND - dark yellow orange (5"), fine to medium, bottom 13 " greyish orange pink, wet.		SP	14,22,36,50	
112		24/24	0	SAND (6") - very pale orange to moderate brown, fine to medium. CLAY (18") - dark reddish brown, some pale yellowish brown.		CH	7,7,10,10	
		24/24	0	Same as above (12"), blending into greyish orange.			10,11,12,14	
117								
122		20/24	0	SANDY CLAY - grey, purple and yellowish orange mottling, low plasticity, medium stiff, wet.		CH	9,17,21,26	
127		22/24	0	SAND - yellow to light grey, very fine to fine, poorly graded, medium dense, some silt, wet.		SP	15,37,35,50	
132								
137								

TITLE: Naval Air Station Whiting Field		LOG of WELL: WHF-6-ID	BORING NO.
CLIENT: SOUTHNAVFACENGCOM		PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 5/7/93	COMPLTD: 5/19/93
METHOD: MUD ROTARY	CASE SIZE: 2"	SCREEN INT.: 175-180 FT.	PROTECTION LEVEL: Modified D
TOC ELEV.: 177.79 FT.	MONITOR INST.: FID	TOT DPTH: 180FT.	DPTH TO ∇ 116.44 FT.
LOGGED BY: S. Consalvi	WELL DEVELOPMENT DATE:		SITE: 6

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS Continued from PAGE 3	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
143									
148									
153									
158									
163									
168									
173									
178									
183									

TITLE: Naval Air Station Whiting Field		LOG of WELL: WHF-6-1S	BORING NO.
CLIENT: SOUTHNAVFACENGCOM			PROJECT NO: RI PHASE IIA
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 5/11/93	COMPLTD: 5/20/93
METHOD: MUD ROTARY	CASE SIZE: 2"	SCREEN INT.: 118-132	PROTECTION LEVEL: D
TOC ELEV.: 177.81 FT.	MONITOR INST.: FID	TOT DPTH: 133FT.	DPTH TO ∇ 116.71 FT.
LOGGED BY: S. Consalvi/KGK	WELL DEVELOPMENT DATE:		SITE: 6

DEPTH FT.	LABORATORY SAMPLE ID.	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
5				SEE WHF-6-3 FOR LITHOLOGICAL DESCRIPTIONS.				
10								
15								
20								
25								
30								
35								
40								
45								

TITLE: Naval Air Station Whiting Field		LOG of WELL: WHF-6-IS		BORING NO.	
CLIENT: SOUTHNAVFACENGCOM				PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.			DATE STARTED: 5/11/93		COMPLTD: 5/20/93
METHOD: MUD ROTARY		CASE SIZE: 2"	SCREEN INT.: 118-132	PROTECTION LEVEL: D	
TOC ELEV.: 177.81 FT.		MONITOR INST.: FID	TOT DPTH: 133FT.	DPTH TO V 116.71 FT.	
LOGGED BY: S. Consalvi/KGK		WELL DEVELOPMENT DATE:			SITE: 6

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS Continued from PAGE 1	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
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51									
56									
61									
66									
71									
76									
81									
86									
91									

TITLE: Naval Air Station Whiting Field		LOG of WELL: WHF-6-1S		BORING NO.	
CLIENT: SOUTHNAVFACENGCOM				PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.			DATE STARTED: 5/11/93		COMPLTD: 5/20/93
METHOD: MUD ROTARY		CASE SIZE: 2"	SCREEN INT.: 118-132		PROTECTION LEVEL: D
TOC ELEV.: 177.81 FT.		MONITOR INST.: FID	TOT DPTH: 133FT.		DPTH TO ∇ 116.71 FT.
LOGGED BY: S. Consalvi/KGK		WELL DEVELOPMENT DATE:			SITE: 6

DEPTH F.T.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
				Continued from PAGE 2				
97								
102								
107								
		24/24	N/A	CLAY - greyish orange, dark yellowish orange and moderate red mottling, stiff, medium plasticity, dry.		CL	10,11,19,19	
112								
		12/24	N/A	CLAY - grey, medium plastic, moist.		CH	0,0,27,27	
117								
122								
127								
		12/24	N/A	SAND - pale pink, very fine to fine, yellow tan banding, moderately dense, saturated.		SP	27-2	
132								
137								

TITLE: Naval Air Station Whiting Field		LOG of WELL: WHF-6-3	BORING NO.
CLIENT: SOUTHNAVFACENGCOM			PROJECT NO: RI PHASE IIA
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 5/4/93	COMPLTD: 5/7/93
METHOD: HOLLOW STEM AUGER	CASE SIZE: 2"	SCREEN INT.: 109-124 FT	PROTECTION LEVEL: Modified D
TOC ELEV.: 176.14 FT.	MONITOR INST.: OVA	TOT DPTH: 124FT.	DPTH TO ∇ 114.11 FT.
LOGGED BY: S. Consalvi	WELL DEVELOPMENT DATE: 6/8/93		SITE: 6

DEPTH F.T.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
5									
10			18/24	0	SANDY SILT - moderate red brown, very fine, poorly graded.		SM	4,10,8,11	
15									
20			24/24	0	Same as above, over 6" of dark yellow orange.		SM	7,8,8,11	
25									
30			16/24	0	SAND - white, fine, very poorly graded, grey and yellow banding, dry.		SP	12,20,27,36	
35									
40									
45									

TITLE: Naval Air Station Whiting Field		LOG of WELL: WHF-6-3	BORING NO.
CLIENT: SOUTHNAVFACENGCOM			PROJECT NO: RI PHASE IIA
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 5/4/93	COMPLTD: 5/7/93
METHOD: HOLLOW STEM AUGER	CASE SIZE: 2"	SCREEN INT.: 109-124 FT	PROTECTION LEVEL: Modified D
TOC ELEV.: 176.14 FT.	MONITOR INST.: OVA	TOT DPTH: 124FT.	DPTH TO ∇ 114.11 FT.
LOGGED BY: S. Consalvi	WELL DEVELOPMENT DATE: 6/8/93		SITE: 6

DEPTH F.T.	LABORATORY SAMPLE ID.	RECOVERY HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
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Continued from PAGE 1

50							
55							
60							
65							
70							
75							
80							
85							
90		12/24	0 SAND - very pale orange, fine, orange red streaking, dry.		SP	8,25,40,46	

TITLE: Naval Air Station Whiting Field		LOG of WELL: WHF-6-3	BORING NO.
CLIENT: SOUTHNAVFACENGCOM		PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 5/4/93	COMPLTD: 5/7/93
METHOD: HOLLOW STEM AUGER	CASE SIZE: 2"	SCREEN INT.: 109-124 FT	PROTECTION LEVEL: Modified D
TOC ELEV.: 176.14 FT.	MONITOR INST.: OVA	TOT DPTH: 124FT.	DPTH TO ∇ 114.11 FT.
LOGGED BY: S. Consalvi	WELL DEVELOPMENT DATE: 6/8/93		SITE: 6

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
Continued from PAGE 2								
		12/24				SP		
95		14/24	0	SAND - pale yellow orange, very fine to medium, trace coarse grains, orange red streaking, dry.		SP	10,18,22,30	
100		14/24	0	SAND (3") - white, fine, top 11" banded pale yellow orange, moderate red and white, 3" lense of silty sand.		SP	11,27,36,36	
105		18/24	0	SILTY SAND - white, fine to medium, top 2" dark yellow orange to very pale orange fine to medium sand.		SM	20,26,70,50	
110		18/24	0	SAND - white, fine, pale yellow orange banding.		SP	12,38,64,50	
115		24/24	0	RE-DRILL CLAY - greyish pink, moderate red mottling, some silt, damp.		CL	9,14,27,31	
		24/24		RE-DRILL CLAYEY SILT - greyish pink, dusky red mottling and streaking, some sand				
120		24/24	0	RE-DRILL Same as above (18"). SAND (6") - white, trace fine sand.			0,27,28,24	
			0	SAND (6") - white, fine to medium, saturated.			15,25,26,43	
		20/24		CLAY (1') - grey, dusky red mottling and streaking.		SP		
				SAND (1') - white, saturated.				
125								
130								
135								

TITLE: Naval Air Station Whiting Field		LOG of WELL: WHF-9-3	BORING NO.
CLIENT: SOUTHNAVFACENGCOM			PROJECT NO: RI PHASE IIA
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 2/22/93	COMPLTD: 2/25/93
METHOD: MUD ROTARY	CASE SIZE: 2"	SCREEN INT.: 90-105	PROTECTION LEVEL: Modified D
TOC ELEV.: 150.98 FT.	MONITOR INST.: OVA	TOT DPTH: 107FT.	DPTH TO ∇ 97.37 FT.
LOGGED BY: M. Alvarez	WELL DEVELOPMENT DATE:		SITE: 9

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
5			18/24	3	SAND - moderate reddish orange, fine, silty sand, dark red orange, dry.		SM	2,8,16,21	
10			18/24	0	SILTY SAND - reddish brown, fine, poorly graded, 1" clay lense, dry.		SM	4,9,5,10	
15			19/24	0	SAND - yellow to dark reddish brown, very fine to fine, some silt, striations, poorly graded, dry.		SP	4,4,4,8	
20			24/24	0	SAA		SP	5,4,5,5	
25			24/24	0	SAA, color change to dark purple to pink.		SP	5,4,7,8	
30			24/24	0	SAA, pink, dark purple, to pale yellow.		SP	5,5,7,8	
35			24/24	0	SAND - white pink to yellow, fine to medium, moderately graded, loose, dry.		SP	3,6,8,11	
40				0			SP	6,7,16,14	

TITLE: Naval Air Station Whiting Field		LOG of WELL: WHF-9-3		BORING NO.	
CLIENT: SOUTHNAVFACENGCOM				PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.			DATE STARTED: 2/22/93		COMPLTD: 2/25/93
METHOD: MUD ROTARY		CASE SIZE: 2"	SCREEN INT.: 90-105	PROTECTION LEVEL: Modified D	
TOC ELEV.: 150.98 FT.		MONITOR INST.: OVA	TOT DPTH: 107FT.	DPTH TO ∇ 97.37 FT.	
LOGGED BY: M. Alvarez		WELL DEVELOPMENT DATE:			SITE: 9

DEPTH FT.	LABORATORY SAMPLE ID.	RECOVERY SAMPLE	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
Continued from PAGE 1								
		18/24		SAND - white, fine, poorly graded, loose, dry.		SP		
45		24/24	0	SAA		SP	7,10,15,16	
50		17/24	0	SAA, pink striations.		SP	7,11,17,19	
55		20/24	0	SAND - pinkish white, fine to medium, moderately graded, trace clay, loose, dry.		SP	14,13,14,15	
60		21/24	0	SAND - white, fine to medium, moderately graded, loose, dry.		SP	20,26,29,37	
65		24/24	0	SAND - fine to coarse, trace gravel, well graded, moderately dense, dry.		SP	20,22,30,33	
70		24/24	2	SAND - white to pale yellowish orange, fine to coarse, moderately graded, loose, wet (perched water).		SP	20,18,25,29	
75		24/24	0	CLAY - gray with reddish purple mottling, fine, plastic, moist.		CL	2,2,2,3	
		24/24	1	SAA.			7,9,11,14	
		24/24	0	SILTY CLAY - pinkish gray, stiff, plastic, moist.			3,4,9,10	
80								

TITLE: Naval Air Station Whiting Field		LOG of WELL: WHF-9-3		BORING NO.	
CLIENT: SOUTHNAVFACENGCOM				PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.			DATE STARTED: 2/22/93		COMPLTD: 2/25/93
METHOD: MUD ROTARY		CASE SIZE: 2"	SCREEN INT.: 90-105		PROTECTION LEVEL: Modified D
TOC ELEV.: 150.98 FT.		MONITOR INST.: OVA	TOT DPTH: 107FT.		DPTH TO ∇ 97.37 FT.
LOGGED BY: M. Alvarez		WELL DEVELOPMENT DATE:			SITE: 9

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS Continued from PAGE 2	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
85		17/24	0	SAA - gray with purple mottling, 1" sand lense.		CL	4,9,15,12	
90		16/24	0	SAA - no sand lense.		CL	6,11,16,20	
95		15/24	0	SAND - tan, fine, some silt, poorly graded, loose, saturated.		SP	11,13,16,23	
100		14/24	6	SAND - grayish pink, fine to medium, poorly graded, loose, saturated.		SP	19,28,31,37	
105		15/24	3	SAA - light tan.		SP	N/A	
110								
115								
120								







TITLE: Naval Air Station Whiting Field				LOG of WELL: WHF-10-2		BORING NO.	
CLIENT: SOUTHNAVFACENGCOM						PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.				DATE STARTED: 3/08/93		COMPLTD: 3/23/93	
METHOD: MUD ROTARY		CASE SIZE: 2"		SCREEN INT.: 98-113 FT.		PROTECTION LEVEL: D	
TOC ELEV.: 150.83 FT.		MONITOR INST.: OVA		TOT DPTH: 115FT.		DPTH TO ∇ 88.6 FT.	
LOGGED BY: R. Nelson		WELL DEVELOPMENT DATE:				SITE: 10	

DEPTH FT.	LABORATORY SAMPLE ID.	RECOVERY HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
5	12/24	0	SANDY CLAY - reddish brown, poorly graded, dry.		SC	3,2,3,3	
10	14/24	0	SAND - orange to red, fine to medium, poorly graded, dry.		SP	3,5,6,9	
15	16/24	0	SANDY CLAY - reddish brown, fine to medium, poorly graded, dry.		SC	14,19,19,29	
20	20/24	2	SILTY SAND - reddish brown, 1/2" clay lense, gray soft, plastic. SAND - yellow, medium, poorly graded, dry.		SM/CH/SP	8,12,14,22	
25	20/24	0	CLAYEY SAND - 5" bands mixed with 3" clay bands, soft, plastic, moist		SC/CH	3,3,4,5	
30	06/24	0	SILTY SAND - yellow to tan, fine, poorly graded, moist.		SM	7,5,6,5	
35	18/24	0	SILTY SAND - SAA, slightly moist, purple bands.		SM	7,7,9,10	
40		1			SM	8,7,10,10	

TITLE: Naval Air Station Whiting Field		LOG of WELL: WHF-10-2		BORING NO.	
CLIENT: SOUTHNAVFACENGCOM				PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.			DATE STARTED: 3/08/93		COMPLTD: 3/23/93
METHOD: MUD ROTARY		CASE SIZE: 2"	SCREEN INT.: 98-113 FT.		PROTECTION LEVEL: D
TOC ELEV.: 150.83 FT.		MONITOR INST.: OVA	TOT DPTH: 115FT.		DPTH TO ∇ 88.6 FT.
LOGGED BY: R. Nelson		WELL DEVELOPMENT DATE:			SITE: 10

DEPTH F.T.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS Continued from PAGE 1	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
				SILTY SAND - SAA.		SM		
45		12/24	1	SILTY SAND - purppple, white, black, fine, poorly graded, thin clay bands, soft, slightly moist.		SM/CH	6,6,9,14	
50		18/24	N/A	SAND - white to purple, brown bands, fine to medium, poorly graded, moist.		SP	11,19,20,25	
55		14/24	1	SAND - bands of light brown, tan, yellow, and purple, fine to medium, poorly graded, slightly moist.		SP	28,28,33,33	
60		08/24	<1	SAND - light brown, medium, poorly graded, dense, saturated.		SP	38,72,ref	
65		08/24	1	SAND - SAA.		SP	46,61,50+ref	
70		12/24	1	SAND - SAA, trace coarse.		SP	28,43,60,71	
75		14/24	1	SAND - pale yellow to orange to purple, fine, poorly graded, dense, 1/4" clay lense, soft, plastic, trace medium, saturated.		SP	9,23,40,52	
80			0			CL	8,12,12,16	

TITLE: Naval Air Station Whiting Field		LOG of WELL: WHF-10-2	BORING NO.
CLIENT: SOUTHNAVFACENGCOM		PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 3/08/93	COMPLTD: 3/23/93
METHOD: MUD ROTARY	CASE SIZE: 2"	SCREEN INT.: 98-113 FT.	PROTECTION LEVEL: D
TOC ELEV.: 150.83 FT.	MONITOR INST.: OVA	TOT DPTH: 115FT.	DPTH TO ∇ 88.6 FT.
LOGGED BY: R. Nelson	WELL DEVELOPMENT DATE:		SITE: 10

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
Continued from PAGE 2								
		24/24		CLAY - gray, medium stiff, moderately plastic, dry, some fine sand.		CL		
		20/24	1	CLAY - purple to gray, plastic, dry, yellow fine sand lense.		CH	14,10,15,16	
85								
90		24/24	0	CLAY - gray, yellow to orange to red mottled, stiff, plastic, dry.		CH	14,12,16,17	
95		16/24	1	SAND - (6 in. clay, white to purple, medium plasticity) 10 in. yellow to tan, very fine to fine.		SP	13,28,26,18	
100		12/24	3	Same as above.		SP	wr,29,33,35	
105		14/24	1	Same as above.		SP	16,21,23,29	
110								
115								
120								

TITLE: Naval Air Station Whiting Field				LOG of WELL: WHF-11-IS		BORING NO.	
CLIENT: SOUTHNAVFACENGCOM				PROJECT NO: RI PHASE IIA			
CONTRACTOR: Groundwater Protection Inc.				DATE STARTED: 7/21/93		COMPLTD: 7/21/93	
METHOD: MUD ROTARY		CASE SIZE: 2"		SCREEN INT.: 36-51 FT		PROTECTION LEVEL: D	
TOC ELEV.: 117.15 FT.		MONITOR INST.: OVA		TOT DPTH: 52FT.		DPTH TO ∇: 45.64 FT.	
LOGGED BY: N. Roka		WELL DEVELOPMENT DATE:				SITE: 11	

DEPTH FT.	LABORATORY SAMPLE ID.	RECOVERY HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
5	21/24	BKG	SAND - red, little fine to medium, poorly graded, medium dense, wet, subangular. SAND - red, fine, little silt, medium dense, moist.		SP	4,5,6,7	
10	18/24	BKG	Same as above, except mostly silt, medium dense, damp.		SM/ML	8,8,9,11	
15	20/24	BKG	Same as above.		SM/ML	6,5,9,11	
20	18/24	2.0	Same as above. SILT - red, very soft, saturated.		SM/ML	7,8,9,9	
25	15/24	3.0	SAND - red grade to light orange, fine to medium, trace silt, poorly graded, medium dense, subangular.		SP	11,12,13,11	
30	19/24	8.5	CLAY - redish yellow, gray mottled, firm to stiff, damp. SANDY SILT - brown, medium firm, soft.		SP	15,17,22,28	
35	10/24	60	SAND - mustard yellow, fine, poorly graded, dense, damp. Same as above, light tannish orange, very dense, moist.		SP	33,51,REF	
40		81			SP	32,29,41,47	

TITLE: Naval Air Station Whiting Field		LOG of WELL: WHF-II-1S		BORING NO.
CLIENT: SOUTHNAVFACENGCOM			PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 7/21/93		COMPLTD: 7/21/93
METHOD: MUD ROTARY	CASE SIZE: 2"	SCREEN INT.: 36-51 FT	PROTECTION LEVEL: D	
TOC ELEV.: 117.15 FT.	MONITOR INST.: OVA	TOT DPTH: 52FT.	DPTH TO ∇ 45.64 FT.	
LOGGED BY: N. Roka	WELL DEVELOPMENT DATE:		SITE: 11	

DEPTH F.T.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
Continued from PAGE 1									
		15/24			SAND - reddish orange grading to bluish gray, fine to medium, poorly graded, wet, subangular.		SP		
45		12/24		1.0	SAND - purple, red, yellow mottled, fine to medium, poorly graded, medium dense, saturated.		SP	18,13,16,20	
50		24/24		BKG	CLAY - gray with red and yellow mottling, fat, firm, plastic, moist.		CL	6,9,9,9	
					SAND - gray with red and yellow mottling, poorly graded, medium dense, wet, subangular.				
					Resume CLAY.				
55									
60									
65									
70									
75									
80									

TITLE: Naval Air Station Whiting Field		LOG of WELL: WHF-11-3	BORING NO.
CLIENT: SOUTHNAVFACENGCOM		PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 2/22/93	COMPLTD: 3/9/93
METHOD: MUD ROTARY	CASE SIZE: 2"	SCREEN INT.: 55-70 FT	PROTECTION LEVEL: D
TOC ELEV.: 117.24 FT.	MONITOR INST.: OVA	TOT DPTH: 118FT.	DPTH TO ∇ 62.45 FT.
LOGGED BY: L. Foster	WELL DEVELOPMENT DATE:		SITE: 11

DEPTH F.T.	LABORATORY SAMPLE ID.	RECOVERY HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
			SAND - reddish brown, fine, poorly graded, loose, moist.		SP	POSTHOLE	
5	20/24	0	SAND - dark reddish brown, fine, silt, poorly graded, stiff, slightly moist.		SM	3,3,3,4	
10	24/24	0	SAND - SAA.		SM	6,8,10,11	
15	20/24	0	SAND - SAA.		SM	6,9,11,11	
20	24/24	0	SAND - orangish brown, fine, poorly graded.		SP	4,5,6,6	
25	24/24	0	SAND - fine, moist, loose.		SP	4,5,6,6	
30	23/24	0	SAND - off-white, fine, poorly graded, loose, dry.		SP	4,11,18,28	
35	24/24	0	SAND - SAA.		SW	5,10,13,17	
40	24/24	7	CLAY - gray to red, stiff, moist.		CL	2,3,5,7	
	24/24	6	CLAY - SAA.		CL	5,7,8,9	
45		4	CLAY - red to tan, inorganic, trace silt, plastic, moist.		CL	2,3,4,6	









TITLE: Naval Air Station Whiting Field		LOG of WELL: WHF-11-3	BORING NO.
CLIENT: SOUTHNAVFACENGCOM			PROJECT NO: RI PHASE IIA
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 2/22/93	COMPLTD: 3/9/93
METHOD: MUD ROTARY	CASE SIZE: 2"	SCREEN INT.: 55-70 FT	PROTECTION LEVEL: D
TOC ELEV.: 117.24 FT.	MONITOR INST.: OVA	TOT DPTH: 118FT.	DPTH TO ∇ 62.45 FT.
LOGGED BY: L. Foster	WELL DEVELOPMENT DATE:		SITE: 11

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
Continued from PAGE 1								
			5	CLAY - SAA, 8" light brown, some fine sand matrix, moist.		CL	3,4,8,10	
		24/24				CL		
			0.6	CLAY - yellowish orange, lower 2" maroonish red, fine sand, firm, moist.		CL	1,1,2,1	
		24/24						
50			0	CLAYEY SAND - brown to red, mottled, moderately firm, slightly moist.		SC	6,10,11,12	
		16/24						
55			3	SAND - yellowish orange, fine to medium, poorly graded, medium dense, wet.		SW	12,13,12,12	
		12/24						
60			0.7	SAND - yellowish orange, fine to medium, trace very fine and coarse, moderately graded, medium dense, wet.		SW	13,23,18,16	
		04/24						
65			4	SAND - pale orangish red, fine to medium, well graded, dense, moist.		SW	16,17,19,24	
		14/24						
70			3.5	Same as above, slightly more medium sand.		SW	X,X,27,28	
		15/24						
75			3.5	SAND - grade pale pink to white, grade coarse to fine, well graded, stiff.		SW	6,6,17,20	
		13/24						
80			0	SAND - very light gray to light tan, fine, poorly graded, medium dense, moist.		SP	7,11,23,27	
		08/24						
85			4	SAND - light tan, medium coarse, trace fine, well graded, medium dense, wet.		SW	23,19,14,24	
		10/24						
90								

TITLE: Naval Air Station Whiting Field		LOG of WELL: WHF-II-3	BORING NO.
CLIENT: SOUTHNAVFACENGCOM		PROJECT NO: R1 PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 2/22/93	COMPLTD: 3/9/93
METHOD: MUD ROTARY	CASE SIZE: 2"	SCREEN INT.: 55-70 FT	PROTECTION LEVEL: D
TOC ELEV.: 117.24 FT.	MONITOR INST.: OVA	TOT DPTH: 118FT.	DPTH TO ∇ 62.45 FT.
LOGGED BY: L. Foster	WELL DEVELOPMENT DATE:		SITE: 11

DEPTH F.T.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
Continued from PAGE 2								
		10/24				SW		
95		11/24	4	SAND - brown to red to gray banding, fine to medium, poorly graded, dense, well rounded, wet.		SP	10,19,22,26	
100		12/24	4.5	SAND - pinkish tan, medium to coarse, trace fines, well graded, dense, trace gravel, lower 3" saturated.	• • • • • •	SW	17,13,13,16	
105		08/24	5	CLAY - red brown and white, fine to medium, well graded, firm, stiff, moist to wet.	|||||	CL/SW	7,14,25,27	
110		08/24	3	SAND - light tan, fine to medium, moderately well graded, saturated.	• • • • • •	SW	15,15,19,21	
115		07/24	0	SAND - light tan, medium to coarse, some fine, well graded, moderately dense, saturated.	• • • • • •	SW	16,12,15,13	
120		05/24	5	Same as above, saturated.	• • • • • •	SW	9,11,14,15	
125				THE HOLE WAS OVERDRILLED TO 118 FT. IT WAS THEN BACKFILLED TO 80 FT. WITH SAND BEFORE THE WELL WAS SET.				
130								
135								








TITLE: Naval Air Station Whiting Field		LOG of WELL: WHF-13-1S		BORING NO.
CLIENT: SOUTHNAVFACENGCOM			PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 7/19/93		COMPLTD: 7/20/93
METHOD: MUD ROTARY	CASE SIZE: 2"	SCREEN INT.: 43-58 FT	PROTECTION LEVEL: 0	
TOC ELEV.: 109.47 FT.	MONITOR INST.: OVA	TOT DPTH: 60FT.	DPTH TO ∇ 55.8 FT.	
LOGGED BY: N. Roka	WELL DEVELOPMENT DATE:		SITE: 13	

DEPTH F.T.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
5		24/24	0.2	SILT - red, very fine, medium dense, very soft, wet.		ML	8,9,12,14	
10		20/24	0.9	CLAYEY SILT - red, slightly moist, firm, some sand.		ML	8,9,10,13	
15		24/24	1.4	Same as above, yellow and red mottled, no clay.		ML	7,9,11,14	
20		19/24	0.2	Same as above, some clay.		ML	5,5,7,9	
25		12/24	0.6	Same as of above. SAND - light tan to orange, fine to medium, poorly graded, dense, moist, subrounded.		ML/SP	12,16,18,19	
30		14/24	1.8	SAND - white to tan to orange, very fine, silt, medium dense, dry.		SP	11,12,15,17	
35		12/24	4.5	Same as above, light tan to yellow.		SP	11,14,17,22	
40			1.4			SP	12,14,18,24	

TITLE: Naval Air Station Whiting Field		LOG of WELL: WHF-13-1S	BORING NO.
CLIENT: SOUTHNAVFACENGCOM			PROJECT NO: RI PHASE IIA
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 7/19/93	COMPLTD: 7/20/93
METHOD: MUD ROTARY	CASE SIZE: 2"	SCREEN INT.: 43-58 FT	PROTECTION LEVEL: D
TOC ELEV.: 109.47 FT.	MONITOR INST.: OVA	TOT DPTH: 60FT.	DPTH TO ∇: 55.8 FT.
LOGGED BY: N. Roka	WELL DEVELOPMENT DATE:		SITE: 13

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
Continued from PAGE 1									
		13/24			SAND - rust to light tan to white to yellow to white to yellow to red, fine, poorly graded, moist to saturated.		SP		
45		12/24		0.8	SAND - rust to mustard yellow, fine to medium, poorly graded, dense, saturated, subrounded to subangular.		SP	12,14,16,15	
50		24/24		BKG	CLAY - gray to red and yellow mottling, fat, firm, stiff, grade to sandy clay.		SP	14,18,23,28	
55		13/24		10	SAND - red, fine to medium, poorly graded, dense, saturated, subangular.		SP	6,12,9,11	
60									
65									
70									
75									
80									

TITLE: Naval Air Station Whiting Field		LOG of WELL: WHF-13-2	BORING NO.
CLIENT: SOUTHNAVFACENGCOM		PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 3/10/93	COMPLTD: 3/18/93
METHOD: MUD ROTARY	CASE SIZE: 2"	SCREEN INT.: 54-69	PROTECTION LEVEL: D
TOC ELEV.: 102.92 FT.	MONITOR INST.: OVA	TOT DPTH: 71FT.	DPTH TO ∇ 52.26 FT.
LOGGED BY: G. Kanchibhatla	WELL DEVELOPMENT DATE:		SITE: 13

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
5		08/24	0	SILTY SAND - reddish brown, fine poorly graded, dry.		SM	2,3,5,9	
10		08/24	0	Same as above, moderately dense, dry.		SM	5,5,7,8	
15		18/24	0	SAND - reddish brown, fine, poorly graded, moderately dense, dry.		SP	7,9,11,8	
20		10/24	0	SAND - yellowish orange to tan, fine, trace coarse, poorly graded, medium dense, dry.		SP	11,11,13,14	
25		10/24	0	Same as above, some medium, dry.		SP	9,15,19,12	
30		10/24	0	CLAY - yellowish orange, gray mottling, soft, dry, low plasticity.		CL	11,8,6,9	
		20/24	0	SILTY CLAY - Same as above.			2,2,3,4	
		20/24	0	Same as above, bottom 2" red and gray mottling.			3,2,1,2	
35		14/24	0	CLAY - red, gray mottling, soft, slightly moist, low plasticity.			2,2,3,2	
40		20/24	0	CLAY - some silt, soft, slightly moist, low plasticity, bottom 3" red and gray mottling.		CL	1,1,1,1	

TITLE: Naval Air Station Whiting Field		LOG of WELL: WHF-13-2	BORING NO.
CLIENT: SOUTHNAVFACENGCOM		PROJECT NO: R1 PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 3/10/93	COMPLTD: 3/18/93
METHOD: MUD ROTARY	CASE SIZE: 2"	SCREEN INT.: 54-69	PROTECTION LEVEL: D
TOC ELEV.: 102.92 FT.	MONITOR INST.: OVA	TOT DPTH: 71FT.	DPTH TO ∇ 52.26 FT.
LOGGED BY: G. Kanchibhatla	WELL DEVELOPMENT DATE:		SITE: 13

DEPTH F.T.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS Continued from PAGE 1	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
							CL		
		20/24							
				0	CLAY - red and gray mottling, medium stiff, dry, plastic.		CL	2,3,2,4	
45		22/24		0	CLAY - medium gray to purple.		CL	NA	
		24/24							
				0	SAND - top 6" brown, fine, grade to CLAY, 10", gray to orange, hard, bottom 2", SAND.		SP	NA	
50		18/24							
				0	CLAYEY SAND - reddish brown to gray to purple to brownish yellow, fine.		CL	NA	
55		15/24		0	Same as above.		SP/CL	NA	
		15/24							
				0	Same as above.		SP	NA	
60		15/24							
				1	SAND - light gray with some orange and red bands, fine,		SP	NA	
65		15/24							
70									
75									
80									

TITLE: Naval Air Station Whiting Field		LOG of WELL: WHF-14-2	BORING NO.
CLIENT: SOUTHNAVFACENGCOM			PROJECT NO: RI PHASE IIA
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 3/18/93	COMPLTD: 3/22/93
METHOD: MUD ROTARY	CASE SIZE: 2"	SCREEN INT.: 100-115	PROTECTION LEVEL: D
TOC ELEV.: 145.86 FT.	MONITOR INST.: OVA	TOT DPTH: 115FT.	DPTH TO ∇ 95.8 FT.
LOGGED BY: W. Colby-George	WELL DEVELOPMENT DATE:		SITE: 14

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
5		18/24	0	SILTY SAND - reddish brown, fine.		SP	NA	
10		12/24	0	Same as above.		SP	3,3,5,6	
15		19/24	0	CLAYEY SAND - yellow and red brown mixture.		SP	5,5,12,6	
20		12/24	0	CLAY - red brown, with silt and sand.		SP	NA	
		17/24	0	SAND - red brown, fine to very fine, well sorted.			NA	
25		18/24	0	SAND - purple and grey, fine, little silt.		SP	NA	
30		10/24	0	Same as above - thin beds of alternating colors.		SP	NA	
35		18/24	0	Same as above (Top 6") SAND (12") - purple and yellow, fine, wet.		SP	NA	
40		12/24	0	SAND - white, yellow and brown, very fine, poorly graded.		SP	NA	









TITLE: Naval Air Station Whiting Field		LOG of WELL: WHF-14-2	BORING NO.
CLIENT: SOUTHNAVFACENGCOM			PROJECT NO: RI PHASE IIA
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 3/18/93	COMPLTD: 3/22/93
METHOD: MUD ROTARY	CASE SIZE: 2"	SCREEN INT.: 100-115	PROTECTION LEVEL: D
TOC ELEV.: 145.86 FT.	MONITOR INST.: OVA	TOT DPTH: 115FT.	DPTH TO ∇ 95.8 FT.
LOGGED BY: W. Colby-George	WELL DEVELOPMENT DATE:		SITE: 14

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
Continued from PAGE 1									
		12/24					SP		
45		15/24		0	Same as above - brown and white.		SP	NA	
50		12/24		0	Same as above.		SP	NA	
55		12/24		0	Same as above.		SP	NA	
60		8/24		0	Same as above.		SP	NA	
65		14/24		0	Same as above.		SP	NA	
70		10/24		0	Same as above - wet.		SP	NA	
75		24/24		0	CLAY (16") - purple, soft. SAND - yellow, coarse, poorly graded.		CL	NA	
		24/24		0	CLAYEY SAND and SANDY CLAY (alternating) - grey and yellow.			NA	
80		24/24		0	Same as above - grey clay, reddish brown sand, and yellow sand.			NA	









TITLE: Naval Air Station Whiting Field		LOG of WELL: WHF-14-2	BORING NO.
CLIENT: SOUTHNAVFACENGCOM			PROJECT NO: RI PHASE IIA
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 3/18/93	COMPLTD: 3/22/93
METHOD: MUD ROTARY	CASE SIZE: 2"	SCREEN INT.: 100-115	PROTECTION LEVEL: D
TOC ELEV.: 145.86 FT.	MONITOR INST.: OVA	TOT DPTH: 115FT.	DPTH TO ∇ 95.8 FT.
LOGGED BY: W. Colby-George	WELL DEVELOPMENT DATE:		SITE: 14

DEPTH F.T.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS Continued from PAGE 2	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
85			20/24	NA	SAND (Top 2") - medium. CLAY - reddish with grey streaking.		CL	NA	
			24/24	NA	CLAYEY SAND and SANDY CLAY (alternating) - yellow and grey.			NA	
90									
			22/24	NA	SAND (Top 2") - yellow brown, fine, poorly graded. CLAY (20") - grey and purple, medium plasticity.		CL	NA	
95			20/24	NA	Same as above.			NA	
			24/24	NA	Same as above - wet. CLAY (2") - fine to very fine.			NA	
100									
			NA	NA	SAND - fine.		SP	NA	
105									
			NA	NA	Same as above.		SP	NA	
110									
			NA	NA	Same as above.		SP	NA	
115									
120									

TITLE: NAVAL AIR STATION WHITING FIELD		LOG of WELL: WHF-15-2D	BORING NO.
CLIENT: SOUTHNAVFACENGCOM			PROJECT NO: RI PHASE IIA
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 07/17/93	COMPLTD: 07/18/93
METHOD: MUD ROTARY	CASE SIZE: 2 in.	SCREEN INT.: 104.6-109.6	PROTECTION LEVEL: D
TOC ELEV.: 60.07 FT.	MONITOR INST.: OVA	TOT DPTH: 110FT.	DPTH TO ∇: 19.33 FT.
LOGGED BY: N. Roka	WELL DEVELOPMENT DATE:		SITE: 15 - S.W. Landfill

DEPTH FT.	LABORATORY SAMPLE ID.	RECOVERY SAMPLE	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
5		24/24	BKG	SAND - rust brown, fine to medium, poorly graded, loose, slightly moist, subrounded.		SP	2,3,4,5	
10		22/24	2	Same as above. CLAY - brown, soft, plastic, moist. SILT SAND - black, fine, loose, slightly moist.		SM	1,1,2,1	
15		24/24	BKG	CLAYEY SAND - gray, fine, poorly graded, loose, slightly moist.		SC	2,2,2,2	
20		24/24	0.4	SAND - white, fine, silt, poorly graded, medium dense, moist.		SP/SM	11,13,17,13	
25		24/12	BKG	SANDY SILT - brown, saturated. SAND - yellowish tan, fine to medium, poorly graded, saturated.		SM/SP	WOR,6,4	
30				FROM WHF-15-MW-21 SAND - orange to red to white, coarse, well graded. SAND - orangish brown, fine, poorly graded.		SW		
35				SAND - light tan, fine to medium, poorly graded, saturated.		SP		
40						SP		

TITLE: NAVAL AIR STATION WHITING FIELD		LOG of WELL: WHF-15-2D		BORING NO.	
CLIENT: SOUTHNAVFACENGCOM				PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.			DATE STARTED: 07/17/93		COMPLTD: 07/18/93
METHOD: MUD ROTARY		CASE SIZE: 2 in.		SCREEN INT.: 104.6-109.6	
TOC ELEV.: 60.07 FT.		MONITOR INST.: OVA		TOT DPTH: 110FT.	
LOGGED BY: N. Roka		WELL DEVELOPMENT DATE:		PROTECTION LEVEL: D	
				DEPTH TO ∇: 19.33 FT.	
				SITE: 15 - S.W. Landfill	

DEPTH FT.	LABORATORY SAMPLE ID.	RECOVERY SAMPLE	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
Continued from PAGE 1								
				SAND - gray, fine, silty, well graded, saturated.		SP		
45								
				SAND - gray, fine to medium, trace coarse, poorly graded, saturated.		SP		
50								
				SAND - light brown, medium, well graded, saturated.		SP		
55								
				SAND - light tan, fine, poorly graded, saturated. RESUME WHF-15-MW-2D		SP		
60			1.6	SAND - light tan, fine to medium, poorly graded, medium dense, saturated, subangular.		SP	13,11,10,12	
		24/24						
65			BKG	Same as above, loose.		SP	4,5,5,9	
		24/24						
70			1.2	Same as above, medium dense.		SP	4,8,9,11	
		12/24						
75			8	Same as above, dense.		SP	10,18,28,42	
		24/24						
80			2.6			SP	4,4,8,11	

TITLE: NAVAL AIR STATION WHITING FIELD		LOG of WELL: WHF-15-2D	BORING NO.
CLIENT: SOUTHNAVFACENGCOM		PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 07/17/93	COMPLTD: 07/18/93
METHOD: MUD ROTARY	CASE SIZE: 2 in.	SCREEN INT.: 104.6-109.6	PROTECTION LEVEL: D
TOC ELEV.: 60.07 FT.	MONITOR INST.: OVA	TOT DPTH: 110FT.	DPTH TO ∇ 19.33 FT.
LOGGED BY: N. Roka	WELL DEVELOPMENT DATE:		SITE: 15 - S.W. Landfill

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
Continued from PAGE 2									
			10/24		Same as above, medium dense.		SP		
85			24/24	10	same as above, dense.		SP	48,22,23,20	
90			0/24	BKG	NO RECOVERY			6,8,15,22	
95			24/24	3	Same as above, medium dense.		SP	4,6,8,12	
100			12/24	21	Same as above, dense.		SP	10,15,22,29	
105			24/24	5	Same as above, loose.		SP	3,4,5,8	
110									
115									
120									

TITLE: NAVAL AIR STATION WHITING FIELD				LOG of WELL: WHF-15-21		BORING NO.	
CLIENT: SOUTHNAVFACENGCOM						PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.				DATE STARTED: 02/3/93		COMPLTD: 02/4/93	
METHOD: MUD ROTARY		CASE SIZE: 2 in.		SCREEN INT.: 50-60 FT		PROTECTION LEVEL: D	
TOC ELEV.: 60.18 FT.		MONITOR INST.: OVA		TOT DPTH: 62FT.		DPTH TO ∇ 20.7 FT.	
LOGGED BY: R. NELSON		WELL DEVELOPMENT DATE:				SITE: 15 - S.W. Landfill	

DEPTH FT.	LABORATORY SAMPLE ID.	RECOVERY SAMPLE	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
5		6/24	0	SAND - light brown, fine to medium, poorly graded, dry.		SP	3,2,4,4	
10		24/24	0	CLAYEY SILT - gray, medium plasticity, saturated, firm, some sand.		CL	2,2,2,2	
		24/24		CLAY - gray, plastic, saturated, soft, trace sand.		CH	1,1,3,5	
15		24/24	0	CLAYEY SILT - gray, medium plasticity, firm, some sand.		CL	10,10,12,11	
		24/24					7,7,8,10	
20		14/24	1	CLAYEY SAND - gray, medium to low plasticity, moist, firm.		SP	6,2,3,3	
				CLAYEY SAND - gray, moist, firm.				
25				SAND - gray, fine, poorly graded, saturated.				
		12/12	2.5	SAND - reddish brown, fine, poorly graded, loose, saturated.		SP	10,12,13,17	
30								
		18/24	15	SAND - orange to red to white, coarse, well graded.		SW	22,22,33,40	
				SAND - orangish brown, fine, poorly graded.				
35		14/24	9	SAND - light tan, fine to medium, poorly graded, saturated.		SP	14,19,23,27	
40		14/24	3	SAND - gray, fine, silty, well graded, saturated.		SW	6,5,4,5	
45		12/24	7	SAND - gray, fine to medium, trace coarse, poorly graded, saturated.		SP	7,8,12,12	
50		12/24	5	SAND - light brown, medium, well graded, saturated.		SP	7,7,7,8	
55		12/24	2	SAND - light tan, fine, poorly graded, saturated.		SP	6,9,8,11	
60								
65								

TITLE: NAVAL AIR STATION WHITING FIELD		LOG of WELL: WHF-15-2S		BORING NO.	
CLIENT: SOUTHNAVFACENGCOM				PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.			DATE STARTED: 02/4/93		COMPLTD: 02/4/93
METHOD: HSA		CASE SIZE: 2		SCREEN INT.: 15-30 FT	
TOC ELEV.: 60.18 FT.		MONITOR INST.: OVA		PROTECTION LEVEL: D	
LOGGED BY: R.Nelson		TOT DPTH: 37FT.		DPTH TO ∇ 19.34 FT.	
WELL DEVELOPMENT DATE:			SITE: 15 - S.W. Landfill		

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
5					SEE WHF-15-2D FOR ADDITIONAL LITHOLOGICAL DESCRIPTIONS.				
10									
15			18/24	1	CLAY - gray, firm, moist, some sand.		SC	2,2,2,4	
20			12/24	1	CLAYEY SAND - gray, firm, moist.		SC	2,7,10,10	
25			20/24		SAND - gray, fine, poorly graded, saturated.		SP	3,4,4,4	
30									
35									
40									

TITLE: NAVAL AIR STATION WHITING FIELD				LOG of WELL: WHF-15-3D		BORING NO.	
CLIENT: SOUTHNAVFACENGCOM						PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.				DATE STARTED: 01/23/93		COMPLTD: 01/25/93	
METHOD: MUD ROTARY		CASE SIZE: 2		SCREEN INT.: 108-118 FT.		PROTECTION LEVEL: D	
TOC ELEV.: 69.61 FT.		MONITOR INST.: OVA		TOT DPTH: 119FT.		DPTH TO ∇ 26.2 FT.	
LOGGED BY: R. Nelson		WELL DEVELOPMENT DATE:				SITE: 15 - S.W. Landfill	

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
5			0	SANDEY CLAY - red, moist.		SC/CL	2,3,3,4	
10			0	SAND - red, fine, poorly graded, trace clay, slightly moist.		SP	5,5,8,10	
15			3	SAND - SAA.		SP	6,8,8,12	
20			1	SAND/GRAVEL - red, well graded, slightly moist.		GW	10,8,10,11	
25			1000	SAND (3") - reddish brown, fine, poorly graded CLAY (3") - purple, very fine, poorly graded. SAND (9") - yellow to tan, coarse, poorly graded, strong odor.		SP	2,3,3,4	
30			4	SAND (1.5') - reddish brown, very fine, poorly graded, saturated. SAND (6") - white to purple, medium to coarse, well graded, saturated.		SP	3,3,3,3	
35			2	SAND - light purple, fine to medium, poorly graded, saturated, sub-rounded.		SP	6,7,8,8	
40								

TITLE: NAVAL AIR STATION WHITING FIELD		LOG of WELL: WHF-15-3D	BORING NO.
CLIENT: SOUTHNAVFACENGCOM			PROJECT NO: RI PHASE IIA
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 01/23/93	COMPLTD: 01/25/93
METHOD: MUD ROTARY	CASE SIZE: 2	SCREEN INT.: 108-118 FT.	PROTECTION LEVEL: D
TOC ELEV.: 69.61 FT.	MONITOR INST.: OVA	TOT DPTH: 119FT.	DPTH TO ∇ 26.2 FT.
LOGGED BY: R. Nelson	WELL DEVELOPMENT DATE:		SITE: 15 - S.W. Landfill

DEPTH F.T.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
Continued from PAGE 1								
		16/24	6	SAND - SAA, 1" bands of red fine sand at top and bottom of spoon.		SP	6,6,7,9	
45		12/24	5	SAND (8") - orange to brown, medium, well graded, trace coarse, saturated. SAND (4") - yellowish, medium, well graded.		SW	7,8,5,6	
50		14/24	4	SAND (10") - white, medium, well graded, trace coarse, saturated. SAND (4") - purple, SAA.		SW	6,5,5,4	
55		18/24	1	SAND - white to tan, very fine, poorly graded, saturated.		SP	3,2,5,6	
60		12/24	1	SAND - yellow to brown, fine, poorly graded, trace coarse, saturated.		SP	8,11,?,11	
65		18/24	N/A	SAND - fine, poorly graded, saturated.		SP	12,16,16,16	
70		12/24	20	SAND - yellow to brown, medium, poorly graded, saturated, sub-rounded.		sp	3,4,3,6	
75		16/24	10	SAND - yellow to brown, medium, well graded, saturated, sub-rounded.		SP	11,12,16,23	
80								

TITLE: NAVAL AIR STATION WHITING FIELD		LOG of WELL: WHF-15-3D	BORING NO.
CLIENT: SOUTHNAVFACENGCOM		PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 01/23/93	COMPLTD: 01/25/93
METHOD: MUD ROTARY	CASE SIZE: 2	SCREEN INT.: 108-118 FT.	PROTECTION LEVEL: D
TOC ELEV.: 69.61 FT.	MONITOR INST.: OVA	TOT DPTH: 119FT.	DPTH TO ∇ 26.2 FT.
LOGGED BY: R. Nelson	WELL DEVELOPMENT DATE:		SITE: 15 - S.W. Landfill

DEPTH FT.	LABORATORY SAMPLE ID.	RECOVERY HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
Continued from PAGE 2							
85	12/24	40	SAND - yellow to brown, medium, poorly graded, saturated, 2" lamina of purple sand, fine at 83'.		SP	17,21,23,21	
85	14/24	2	SAND - yellow brown, fine, well graded, saturated, 4" lamina of purple, medium sand at 86'.		SP	N/A	
90	20/24	0	CLAY (16") - purple to yellow, firm, plastic, saturated. SAND (4") - yellow brown, fine, poorly graded, trace clay, saturated.		CH	N/A	
95	18/24	0	SAND - yellow brown, very fine, poorly graded, trace silt, moist.		SM	N/A	
100	18/24	1	SAND - SAA.		SM	N/A	
105	14/24	0	SAND (4") - yellow to brown, fine, saturated. CLAY (4") - purple to yellow, plastic, saturated. SAND (6") - purple to yellow-brown, fine.		SP	N/A	
110	14/24	5	SAND - yellow to brown, fine to coarse, saturated.		SP	N/A	
115	20/24	5	SAND - purple, medium, poorly graded, saturated, sub-rounded.		SP	N/A	
120	20/24	N/A	SAND (10") - SAA. CLAY (10") - purple, stiff, fine yellow sand interbedded.		SP	N/A	

TITLE: NAVAL AIR STATION WHITING FIELD				LOG of WELL: WHF-15-31		BORING NO.			
CLIENT: SOUTHNAVFACENGCOM						PROJECT NO: RI PHASE IIA			
CONTRACTOR: Groundwater Protection Inc.				DATE STARTED: 02/2/93		COMPLTD: 02/2/93			
METHOD: MUD ROTARY		CASE SIZE: 2		SCREEN INT.: 75-85 FT		PROTECTION LEVEL: D			
TOC ELEV.: 69.72 FT.		MONITOR INST.: OVA		TOT DPTH: 87FT.		DPTH TO ∇ 26.86 FT.			
LOGGED BY: G. Kanchibhatla		WELL DEVELOPMENT DATE:				SITE: 15 - S.W. Landfill			
DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
5					SEE WHF-15-3D FOR LITHOLOGICAL DESCRIPTIONS.				
10									
15									
20									
25									
30									
35									
40									
45									

TITLE: NAVAL AIR STATION WHITING FIELD		LOG of WELL: WHF-15-3I	BORING NO.
CLIENT: SOUTHNAVFACENGCOM		PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 02/2/93	COMPLTD: 02/2/93
METHOD: MUD ROTARY	CASE SIZE: 2	SCREEN INT.: 75-85 FT	PROTECTION LEVEL: D
TOC ELEV.: 69.72 FT.	MONITOR INST.: OVA	TOT DPTH: 87FT.	DPTH TO ∇ 26.86 FT.
LOGGED BY: G. Kanchibhatla	WELL DEVELOPMENT DATE:		SITE: 15 - S.W. Landfill

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS Continued from PAGE 1	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
50									
55									
60									
65									
70									
75					SAND - purple, fine, poorly graded, saturated. SAND - purple, medium, well graded, saturated.		SP	2,3,2,2	
80					SAND - light purple, fine, silty, poorly graded, saturated.		SP	5,8,9,12	
85									
90									

TITLE: NAVAL AIR STATION WHITING FIELD				LOG of WELL: WHF-15-3S		BORING NO.	
CLIENT: SOUTHNAVFACENGCOM						PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.				DATE STARTED: 02/1/93		COMPLTD: 02/1/93	
METHOD: HSA		CASE SIZE: 2"		SCREEN INT.: 20-35 FT		PROTECTION LEVEL: D	
TOC ELEV.: 69.87 FT.		MONITOR INST.: OVA		TOT DPTH: 37FT.		DPTH TO ∇ 26.24 FT.	
LOGGED BY: G. Kanchibhatla		WELL DEVELOPMENT DATE:				SITE: 15 - S.W. Landfill	

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
5									
10									
15					SAND - reddish brown, fine to medium, poorly graded, dry.		SP	5,6,6,6	
20					Same as above, alternating bands of pink and white.		SP	3,4,4,5	
25					SAND - gray to white, medium, poorly graded, saturated.		SP	3,2,2,3	
30					SAND - fine, silty, saturated.				
35									
40									

TITLE: NAVAL AIR STATION WHITING FIELD		LOG of WELL: WHF-15-4		BORING NO.	
CLIENT: SOUTHNAVFACENGCOM				PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.			DATE STARTED: 02/18/93		COMPLTD: 04/29/93
METHOD: HSA		CASE SIZE: 2"	SCREEN INT.: 92-107 FT.		PROTECTION LEVEL: 0
TOC ELEV.: 143.54 FT.		MONITOR INST.: OVA	TOT DPTH: 112FT.		DPTH TO ∇ 98.8 FT.
LOGGED BY: G. Kanchibhatla		WELL DEVELOPMENT DATE:			SITE: 15 - S.W. Landfill

DEPTH F.T.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
5		20/24	< 1	SAND - dark brown, fine, poorly graded, dry, loose, some organic content.		SP	1,1,1,1	
10		8/24	0	SAND - reddish brown, fine, poorly graded, dry, loose.		SP	2,2,3,2	
15		1/24	0	SAND - dark tan and yellowish orange bands, fine, poorly graded, dry.		SP	6,8,9,10	
		6/24						
20		24/24	0	Same as above, trace amounts of silt at 21 ft. bls.		SP	4,6,10,12	
25		20/24	0	SAND - white, very fine, poorly graded, moderately dense, dry.		SP	8,7,11,14	
30		20/24	0	SAND - very fine to fine, poorly graded, moderately dense, trace amounts of coarse to very coarse sand.		SP	8,7,11,14	
35		12/24	0	SAND - white with bands of reddish brown fine to medium, poorly graded, loose, dry.		SP	5,6,10,13	
40						SP		

TITLE: NAVAL AIR STATION WHITING FIELD		LOG of WELL: WHF-15-4	BORING NO.
CLIENT: SOUTHNAVFACENGCOM			PROJECT NO: RI PHASE IIA
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 02/18/93	COMPLTD: 04/29/93
METHOD: HSA	CASE SIZE: 2"	SCREEN INT.: 92-107 FT.	PROTECTION LEVEL: D
TOC ELEV.: 143.54 FT.	MONITOR INST.: OVA	TOT DPTH: 112FT.	DPTH TO ∇ 98.8 FT.
LOGGED BY: G. Kanchibhatla	WELL DEVELOPMENT DATE:		SITE: 15 - S.W. Landfill

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
Continued from PAGE 1								
		20/24	0	Same as above, trace coarse.		SP	5,8,11,14	
45		24/24	0	Same as above.		SP	8,13,23,27	
50		20/24	0	SAND - white, fine, trace silt, moderately dense, slightly moist, poorly graded.		SP	6,11,15,17	
55		20/24	0	Same as above.		SP	14,10,14,21	
60		20/24	0	Same as above, white to tan.		SP	10,15,21,29	
65		18/24	0	SAND - white to tan, fine to medium, fairly graded, moderately dense, slightly moist.		SP	22,28,29,28	
70		18/24	0	SAND - white, very fine to fine, poorly graded, moderately dense, dry.		SP	17,11,25,52	
75		18/24	1	SAND - white, very fine to fine, purple bands, poorly graded, loose, dry.		SP	18,27,31,28	
80						SP		

TITLE: NAVAL AIR STATION WHITING FIELD		LOG of WELL: WHF-15-4	BORING NO.
CLIENT: SOUTHNAVFACENGCOM		PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 02/18/93	COMPLTD: 04/29/93
METHOD: HSA	CASE SIZE: 2"	SCREEN INT.: 92-107 FT.	PROTECTION LEVEL: D
TOC ELEV.: 143.54 FT.	MONITOR INST.: OVA	TOT DPTH: 112FT.	DPTH TO ▽: 98.8 FT.
LOGGED BY: G. Kanchibhatla	WELL DEVELOPMENT DATE:		SITE: 15 - S.W. Landfill

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
Continued from PAGE 2								
		20/24	0	SAND - white to purple, medium to fine, some coarse, poorly graded, moderately dense, slightly moist, trace silt.		SP	22,12,12,14	
85		16/24	0	SAND - white to tan and purple, very fine to fine, poorly graded, dry, moderately dense.		SP	16,31,39,29	
90		18/24	0	SAND - white to tan, fine, poorly graded with some silt, loose to moderate density, slightly moist.		SP	22,22,42,27	
95		20/24	0	SAND - white to tan, very fine to fine, some silt, poorly graded top 8", over SANDY CLAY, yellow orange to purple, moist 8", over SAND, very fine to fine, purple, slightly moist, dense.		SP	7,15,31,33	
100		16/24	-	SAND - white to tan, fine, poorly graded, saturated, trace sandy clay.		SP	DROP,16,15	
105		24/24	-	Same as above, trace silt, saturated to wet.		SP		
110		24/24	-	Same as above, fine, light brown.		SP		
115				WHF-15-4 WAS REDRILLED ON 4/29/93.				
120								

TITLE: NAVAL AIR STATION WHITING FIELD		LOG of WELL: WHF-15-5	BORING NO.
CLIENT: SOUTHNAVFACENGCOM		PROJECT NO: R1 PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 02/05/93	COMPLTD: 02/08/93
METHOD: Mud Rot	CASE SIZE: 6 in.	SCREEN INT.: 56-66 FT.	PROTECTION LEVEL: D
TOC ELEV.: 104.32 FT.	MONITOR INST.: OVA	TOT DPTH: 68FT.	DPTH TO ∇ 64.63 FT.
LOGGED BY: N. Haglin	WELL DEVELOPMENT DATE:		SITE: 15 - S.W. Landfill

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
5			15/24	0	SILTY SAND - dark red, fine, medium dense, damp.		SM	3,5,5,7	
10			24/24	0	Same as above.		SM	-,-,-,-	
15			12/24	0	SAND - reddish tan to white, fine, loose, dry.		SP	2,5,8,11	
20			24/24	0	Same as above, more white sand.		SP	4,5,7,10	
25			24/24	0	SAND - white, very fine to fine, loose, dry.		SP	5,5,6,7	
30			20/24	0	Same As Above, banded dark red and white.		SP	5,11,12,15	
35			15/24	0	SAND - fine, banded rust and white, damp.		SP	6,9,12,12	
40							SP		

TITLE: NAVAL AIR STATION WHITING FIELD		LOG of WELL: WHF-15-5		BORING NO.	
CLIENT: SOUTHNAVFACENGCOM				PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.			DATE STARTED: 02/05/93		COMPLTD: 02/08/93
METHOD: Mud Rot		CASE SIZE: 6 in.	SCREEN INT.: 56-66 FT.		PROTECTION LEVEL: D
TOC ELEV.: 104.32 FT.		MONITOR INST.: OVA	TOT DPTH: 68FT.		DPTH TO ∇ 64.63 FT.
LOGGED BY: N. Haglin		WELL DEVELOPMENT DATE:			SITE: 15 - S.W. Landfill

DEPTH F.T.	LABORATORY SAMPLE ID.	RECOVERY HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
Continued from PAGE 1							
		14/24	0		SP	3,7,8,7	
45		24/24	0		SW	4,3,3,5	
		24/24	0		CL	2,3,2,4	
50		24/24	0		CL	1,2,3,6	
		24/24	0			1,1,4,5	
55		24/24	0			10,12,14,18	
		24/24	0		SP SM	18,30,36,46	
60		24/24	0		SP	12,14,10,12	
65		14/24	< 1		SP	14,14,11,10	
70							
75							
80							

TITLE: NAVAL AIR STATION WHITING FIELD		LOG of WELL: WHF-15-6D		BORING NO.	
CLIENT: SOUTHNAVFACENGCOM				PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.			DATE STARTED: 02/5/93		COMPLTD: 02/8/93
METHOD: MUD ROTARY		CASE SIZE: 2"		SCREEN INT.: 110-120 FT.	
TOC ELEV.: 75.14 FT.		MONITOR INST.: OVA		TOT DPTH: 122FT.	
LOGGED BY: R.Nelson		WELL DEVELOPMENT DATE:		SITE: 15 - S.W. Landfill	
PROTECTION LEVEL: 0		DPTH TO ∇ 35.33 FT.			

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
5			0	SANDY SILT - reddish brown, medium, poorly graded, slightly moist.		SM	3,3,3,3	
10		16/24	1	Same as above.		SM	3,3,3,5	
15		20/24	1	SAND - reddish brown, fine, trace silt, poorly graded, saturated.		SP	7,11,12,15	
20		18/24	1	SAND - white to gray, fine, poorly graded.				
25		14/24	1	SAND - reddish brown, fine, poorly graded, trace silt, wet.		SP	5,9,10,12	
30		18/24	120	SAND - light purple, fine, poorly graded, silt, wet.		SP	5,8,8,7	
35		14/24	160	SAND - orangish brown to gray, fine, trace silt, poorly graded.		SP	4,5,5,6	
40		8/24	3	SAND - tan, fine, poorly graded, silty.		SP	PUSHED	
45		10/24	160	SAND - gray, fine, poorly graded, wet.		SP	PUSHED	

TITLE: NAVAL AIR STATION WHITING FIELD		LOG of WELL: WHF-15-6D		BORING NO.	
CLIENT: SOUTHNAVFACENGCOM				PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.			DATE STARTED: 02/5/93		COMPLTD: 02/8/93
METHOD: MUD ROTARY		CASE SIZE: 2"		SCREEN INT.: 110-120 FT.	
TOC ELEV.: 75.14 FT.		MONITOR INST.: OVA		PROTECTION LEVEL: D	
LOGGED BY: R.Nelson		WELL DEVELOPMENT DATE:		DPTH TO ∇ 35.33 FT.	
				SITE: 15 - S.W. Landfill	









DEPTH FT.	LABORATORY SAMPLE ID.	RECOVERY HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
Continued from PAGE 1							
22	6/24		Same as above.		SP	PUSHED	
50	4/24		Same as above, medium.		SP	PUSHED	
55	20/24		SAND - light tan, fine to medium, poorly graded, wet, trace coarse		SP	7,14,21,18	
60	12/24		SAND - purple, fine, poorly graded, wet.		SP	7,9,9,10	
65	20/24		SAND - light brown to light purple, medium to coarse, poorly graded, wet.		SP	11,13,8,10	
70	12/24		SAND - light brown, medium to coarse, wet. SAND - gray to white, fine, poorly graded.		SP	8,7,4,6	
75	18/24		SAND - light brown, medium to coarse, well graded, wet.		SP	10,7,6,7	
80	14/24		SAND - light brown, medium grained, well graded, wet.	• • • • • •	SW	7,7,8,5	
85	14/24		Same as above, 3 in. clay layer, medium sand, light purple, poorly graded.	• • • • • •	SW	5,6,11,11	
90							

TITLE: NAVAL AIR STATION WHITING FIELD		LOG of WELL: WHF-15-6D	BORING NO.
CLIENT: SOUTHNAVFACENGCOM		PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 02/5/93	COMPLTD: 02/8/93
METHOD: MUD ROTARY	CASE SIZE: 2"	SCREEN INT.: 110-120 FT.	PROTECTION LEVEL: D
TOC ELEV.: 75.14 FT.	MONITOR INST.: OVA	TOT DPTH: 122FT.	DPTH TO ∇ 35.33 FT.
LOGGED BY: R.Nelson	WELL DEVELOPMENT DATE:		SITE: 15 - S.W. Landfill

DEPTH F.T.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
Continued from PAGE 2								
95		14/24	1.5	SAND - light brown to purple, medium, well graded.		SW	2,7,8,9	
		24/24	2.5	SAND - light brown, medium, well graded, wet. Same as above, fine.		SW	3,4,8,11	
100		14/24	4	SAND - light brown, fine, poorly graded, wet.		SP	25,15,15,14	
105		12/24	7	SAND - light brown to light purple, medium, poorly graded.		SP	21,16,18,19	
110		12/24	0	SAND - light brown, fine, poorly graded, wet.		SP	30,37,34,38	
115		12/24	1	SAND - light brown, fine to medium, poorly graded. Same as above, medium. Same as above, purple.		SP	21,20,18,19	
120								
125								
130								
135								

TITLE: NAVAL AIR STATION WHITING FIELD				LOG of WELL: WHF-15-6S		BORING NO.			
CLIENT: SOUTHNAVAFACENGCOM						PROJECT NO: RI PHASE IIA			
CONTRACTOR: Groundwater Protection Inc.				DATE STARTED: 02/8/93		COMPLTD: 02/8/93			
METHOD: HSA		CASE SIZE: 2"		SCREEN INT.: 25-40 FT.		PROTECTION LEVEL: D			
TOC ELEV.: 74.35 FT.		MONITOR INST.: OVA		TOT DPTH: 41FT.		DPTH TO ∇ 34.32 FT.			
LOGGED BY: R. Nelson		WELL DEVELOPMENT DATE:				SITE: 15 - S.W. Landfill			
DEPTH F.T.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
5					SEE WHF-15-6D FOR LITHOLOGIC DESCRIPTIONS.				
10									
15									
20									
25									
30									
35									
40									

TITLE: NAVAL AIR STATION WHITING FIELD				LOG of WELL: WHF-16-2D		BORING NO. WHF-16-2D	
CLIENT: SOUTHNAVFACENGCOM						PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.				DATE STARTED: 02/09/93		COMPLTD: 03/4/93	
METHOD: MUD ROT.		CASE SIZE: N/A		SCREEN INT.: N/A		PROTECTION LEVEL: D	
TOC ELEV.: N/A FT.		MONITOR INST.: OVA		TOT DPTH: 262FT.		DPTH TO ∇ FT.	
LOGGED BY: R. Nelson, G.K.		WELL DEVELOPMENT DATE: N/A				SITE: 16 - Wastewater Plnt.	

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
5		15/24	0	SAND - light brown, fine to medium, poorly graded, dry.		SP	4,4,7,5	
10		12/24	0	SILTY SAND - reddish brown, poorly graded, dry.		SP	4,3,5,4	
15		12/24	2	SILTY SAND - reddish brown, poorly graded, trace coarse, dry.		SP	6,8,12,14	
20		16/24	1	SILTY SAND - SAA.		SP	5,6,7,9	
25		14/24	0	SAND - white to tan, very fine, poorly graded, grade to SANDY CLAY - white, yellow mottling, firm, dry.		SP	6,9,8,5	
30		14/24	0	SAND - off-white, fine, poorly graded, dry.		SP	9,11,12,14	
35		16/24	0	SAND - SAA, saturated.		SP	6,6,7,9	
40			2			SP	4,5,9,16	

TITLE: NAVAL AIR STATION WHITING FIELD		LOG of WELL: WHF-16-2D	BORING NO. WHF-16-2D
CLIENT: SOUTHNAVFACENGCOM			PROJECT NO: RI PHASE IIA
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 02/09/93	COMPLTD: 03/4/93
METHOD: MUD ROT.	CASE SIZE: N/A	SCREEN INT.: N/A	PROTECTION LEVEL: D
TOC ELEV.: N/A FT.	MONITOR INST.: OVA	TOT DPTH: 262FT.	DPTH TO ∇ FT.
LOGGED BY: R. Nelson, G.K.	WELL DEVELOPMENT DATE: N/A		SITE: 16 - Wastewater Plnt.

DEPTH F.T.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
Continued from PAGE 1								
		20/24		SAND - light brown, fine, poorly graded, saturated. SAND - white, fine, poorly graded, saturated.		SP		
45		22/24	9	SAND - ligh brown to tan, fine to medium, poorly graded, saturated.		SP	15,16,11,9	
50		20/24	6	SAND - off-white, fine to medium, poorly graded, trace silt, saturated.		SP	6,7,7,11	
55		16/24	10	SAND - off-white to light pink, fine to medium, poorly graded, saturated.		SP	7,8,9,11	
60		16/24	2	SAND - SAA.		SP	16,12,12,14	
65		18/24	7	SAND - purple, medium, poorly graded, trace silt, saturated.		SP	dropped	
70		18/24	11	SAND - off-white, fine, poorly graded, saturated.		SP	13,15,9,6	
75		12/24	26	SAND - light brown, fine, poorly graded, saturated.		SP	13,15,15,15	
80			0			SW	4,5,8,12	

TITLE: NAVAL AIR STATION WHITING FIELD		LOG of WELL: WHF-16-2D	BORING NO. WHF-16-2D
CLIENT: SOUTHNAVFACENGCOM			PROJECT NO: RI PHASE IIA
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 02/09/93	COMPLTD: 03/4/93
METHOD: MUD ROT.	CASE SIZE: N/A	SCREEN INT.: N/A	PROTECTION LEVEL: D
TOC ELEV.: N/A FT.	MONITOR INST.: OVA	TOT DPTH: 262FT.	DPTH TO ♀ FT.
LOGGED BY: R. Nelson, G.K.	WELL DEVELOPMENT DATE: N/A		SITE: 16 - Wastewater Pint.

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
Continued from PAGE 2								
		12/24		SAND - tan to brown, medium, well graded, saturated.		SW		
85		12/24	2.5	SAND - light brown, fine to coarse, poorly graded, saturated.		SP	14,12,16,15	
90		14/24	70	SAND - SAA, purple.		SP	10,14,21,26	
95		14/24	19	SAND - light brown to tan, fine to medium, trace coarse poorly graded.		SP	12,16	
100		16/24	5.5	SAND - SAA, purple.		SP	16,19,22,17	
105		16/24	4	SAND - light brown, fine to medium, poorly graded, saturated.		SP	dropped	
110		18/24	8.5			SP	19,21,26,28	
115		12/24	4	SAND - SAA.		SP	39,41,53,60	
120			N/A			SP	33,42,51,56	








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CLIENT: SOUTHNAVFACENGCOM		PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 02/09/93	COMPLTD: 03/4/93
METHOD: MUD ROT.	CASE SIZE: N/A	SCREEN INT.: N/A	PROTECTION LEVEL: D
TOC ELEV.: N/A FT.	MONITOR INST.: OVA	TOT DPTH: 262FT.	DPTH TO ∇ FT.
LOGGED BY: R. Nelson, G.K.	WELL DEVELOPMENT DATE: N/A		SITE: 16 - Wastewater Plnt.

DEPTH FT.	LABORATORY SAMPLE ID.	RECOVERY HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
Continued from PAGE 3							
	12/24		SAND - light brown with 1" purple lense, medium, poorly graded, saturated.		SP		
125	20/24	N/A	SILTY SAND - fine to medium, poorly graded, soft.		SM	11,11,15,12	
130	24/24	N/A	SILTY SAND - mustard yellow, fine, soft, saturated.		SM	1,2,1,1	
		N/A	SILTY SAND - SAA.		SM	dropped	
135	24/24	N/A	SILTY SAND -SAA, gray.		SM	dropped	
140	24/24	0	SAND - SAA.		CH	7,12,13,14	
	24/24	N/A	CLAY - gray, moderately stiff.			20,18,23,24	
	12/12	0	CLAY - gray, moderately stiff.			9,5,5,7	
145	22/24	0	CLAY (3") - SAA. SANDY SILT - yellowish orange.			9,10,9,8	
	23/24	0	SAND (6") - yellowish orange, fine to coarse, some silt. SANDY CLAY (6") - gray, moderately stiff.			13,12,11,12	
150	22/24	0	CLAY (11") - gray, moderately stiff.			14,14,15,16	
			CLAY - SAA, high plasticity.				
155	24/24	0	CLAY - SAA.		CH	6,7,8,15	
160	24/24	0	CLAY - SAA.		CH	14,12,11,14	




TITLE: NAVAL AIR STATION WHITING FIELD		LOG of WELL: WHF-16-2D	BORING NO. WHF-16-2D
CLIENT: SOUTHNAVFACENGCOM		PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 02/09/93	COMPLTD: 03/4/93
METHOD: MUD ROT.	CASE SIZE: N/A	SCREEN INT.: N/A	PROTECTION LEVEL: D
TOC ELEV.: N/A FT.	MONITOR INST.: OVA	TOT DPTH: 262FT.	DPTH TO ▽ FT.
LOGGED BY: R. Nelson, G.K.	WELL DEVELOPMENT DATE: N/A		SITE: 16 - Wastewater Plnt.

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
Continued from PAGE 4								
		24/24				CH		
165		24/24	0	CLAY - SAA.		CH	12,12,12,16	
170		24/24	0	CLAY - SAA, some fine sand.		CH	11,10,18,24	
175	14/24		0	CLAY (3") - gray, moderately stiff, some sand. SAND (9") - gray, fine to coarse, poorly graded, very dense, saturated.		CH	60,85,refusl	
180	24/24		0	SANDY CLAY - gray, low plasticity.		CL	24,26,22,15	
185	12/24		0	SANDY SILT - olive gray, very fine, poorly graded, moderately dense, moist.		ML	29,41,46,52	
190	12/24		0	SILT (6") - olive green, dense, slightly moist. SAND (3") - light olive gray, very fine, poorly graded, very dense, moist. SANDY SILT (3") - olive gray, dense, moist.		ML	57,59,55,70	
195	08/24		0	SAND - olive gray, fine, poorly graded, very dense, some silt, saturated.		SP	61,refusal	
200	24/24		0	SANDY SILT - olive green to gray, very dense, shell fragments, moist.		ML	60,82,96,ref	

TITLE: NAVAL AIR STATION WHITING FIELD		LOG of WELL: WHF-16-2D	BORING NO. WHF-16-2D
CLIENT: SOUTHNAVFACENGCOM			PROJECT NO: RI PHASE IIA
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 02/09/93	COMPLTD: 03/4/93
METHOD: MUD ROT.	CASE SIZE: N/A	SCREEN INT.: N/A	PROTECTION LEVEL: D
TOC ELEV.: N/A FT.	MONITOR INST.: OVA	TOT DPTH: 262FT.	DPTH TO ∇ FT.
LOGGED BY: R. Nelson, G.K.	WELL DEVELOPMENT DATE: N/A		SITE: 16 - Wastewater Plnt.

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
Continued from PAGE 5								
		24/24				ML		
205		12/24	0	SANDY SILT - SAA, saturated.		ML	86,75,ref	
210		24/24	0	CLAY - dark gray, stiff, high plasticity, dry.		CH	22,22,24,31	
215		24/24	0	CLAY - SAA.		CH	18,20,29,37	
220		24/24	0	CLAY - SAA.		CH	18,20,28,43	
225								
230		24/24	0	SAND (6") - gray, fine to medium, poorly graded, saturated. CLAY (1.5') - gray, firm, plastic.		CH	33,31,48,ref	
235		24/24	0	CLAY - gray, moderately stiff, plastic.		CH	12,17,22,35	
240								

TITLE: NAVAL AIR STATION WHITING FIELD		LOG of WELL: WHF-16-2D	BORING NO. WHF-16-2D
CLIENT: SOUTHNAVFACENGCOM			PROJECT NO: RI PHASE IIA
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 02/09/93	COMPLTD: 03/4/93
METHOD: MUD ROT.	CASE SIZE: N/A	SCREEN INT.: N/A	PROTECTION LEVEL: D
TOC ELEV.: N/A FT.	MONITOR INST.: OVA	TOT DPTH: 262FT.	DPTH TO ∇ FT.
LOGGED BY: R. Nelson, G.K.	WELL DEVELOPMENT DATE: N/A		SITE: 16 - Wastewater Plnt.

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
Continued from PAGE 6								
245		24/24	0	CLAY - SAA.		CH	37,40,35,35	
250								
255		24/24	3	SILTY SAND - gray, dense, trace coarse, moist.		SM	52,50,refusl	
260		12/24	N/A	SANDY SILT - gray, fine, poorly graded, shell fragments, saturated.		ML	23,35,53,ref	
265								
270								
275								
280								

TITLE: NAVAL AIR STATION WHITING FIELD		LOG of WELL: WHF-16-21	BORING NO.
CLIENT: SOUTHNAVFACENGCOM		PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 02/18/93	COMPLTD: 02/18/93
METHOD: MUD ROTARY	CASE SIZE: 2"	SCREEN INT.: 117-127 FT	PROTECTION LEVEL: D
TOC ELEV.: 80.71 FT.	MONITOR INST.: OVA	TOT DPTH: 127.5 FT.	DPTH TO ∇ 36.52 FT.
LOGGED BY: R. Nelson	WELL DEVELOPMENT DATE:		SITE: 16 - Open Disposal/Burn Area

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
5					SEE WHF-16-2D FOR FULL LITHOLOGIC DATA.				
10									
15									
20									
25									
30									
35									
40									
45									
50									
55									
60									
65									

TITLE: NAVAL AIR STATION WHITING FIELD		LOG of WELL: WHF-16-21	BORING NO.
CLIENT: SOUTHNAVFACENGCOM		PROJECT NO: R1 PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 02/18/93	COMPLTD: 02/18/93
METHOD: MUD ROTARY	CASE SIZE: 2"	SCREEN INT.: 117-127 FT	PROTECTION LEVEL: D
TOC ELEV.: 80.71 FT.	MONITOR INST.: OVA	TOT DPTH: 127.5 FT.	DPTH TO ∇ 36.52 FT.
LOGGED BY: R. Nelson	WELL DEVELOPMENT DATE:		SITE: 16 - Open Disposal/Burn Area

DEPTH F.T.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS Continued from PAGE 1	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
70									
75									
80									
85									
90									
95									
100									
105									
110									
115		06/24	N/A		SAND - light brown, medium, poorly graded, saturated, purple lamina.		SP	12,18,18,37	
120		08/24	N/A		SAND - SAA.		SP	38,30,60,48	
125		16/24	N/A		SAND - tan, medium, poorly graded, trace gravel, saturated, rounded.		SP	20,20,20,24	
130									

TITLE: NAVAL AIR STATION WHITING FIELD		LOG of WELL: WHF-16-2S		BORING NO.
CLIENT: SOUTHNAVFACENGCOM			PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 02/21/93		COMPLTD: 02/21/93
METHOD: HSA	CASE SIZE: 2"	SCREEN INT.: 31-46 FT	PROTECTION LEVEL: D	
TOC ELEV.: 83.75 FT.	MONITOR INST.: OVA	TOT DPTH: 46FT.	DPTH TO ∇ 39.41 FT.	
LOGGED BY: R. Nelson	WELL DEVELOPMENT DATE:		SITE: 16 - Open Disposal/Burn Area	

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
5					SEE WHF-16-2D FOR FULL LITHOLOGIC DATA.				
10									
15									
20									
25									
30				0	SAND - white, very fine to fine, poorly graded, dry.		SP	3,3,5,8	
35				0	SAND - SAA, trace silt.		SP	7,4,6,11	
40				0	SAND - white, very fine to coarse, poorly graded, saturated.	• • • • • •	SW	5,3,4,7	
45									

TITLE: NAVAL AIR STATION WHITING FIELD		LOG of WELL: WHF-16-3D	BORING NO.
CLIENT: SOUTHNAVFACENGCOM			PROJECT NO: RI PHASE IIA
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 01/22/93	COMPLTD: 01/26/93
METHOD: MUD ROTARY	CASE SIZE: 2"	SCREEN INT.: 105-115 FT	PROTECTION LEVEL: D
TOC ELEV.: 51.47 FT.	MONITOR INST.: OVA	TOT DPTH: 115FT.	DPTH TO ∇ 10.32 FT.
LOGGED BY: W. Colby-George	WELL DEVELOPMENT DATE:		SITE: 16 - S.W. Landfill

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
5					SAND - light brown, well sorted.		SP		
10					SAND - some fines, wet.		SP		
15					SAND - red brown.		SP		
20					SAND - SAA		SP		
25					SAND - yellow to tan.		SP		
30					SAND - yellow to purple, fine.		SP		
35					SAA		SP		
40							SP		

TITLE: NAVAL AIR STATION WHITING FIELD		LOG of WELL: WHF-16-3D		BORING NO.	
CLIENT: SOUTHNAVFACENGCOM				PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.			DATE STARTED: 01/22/93		COMPLTD: 01/26/93
METHOD: MUD ROTARY		CASE SIZE: 2"		SCREEN INT.: 105-115 FT	
TOC ELEV.: 51.47 FT.		MONITOR INST.: OVA		PROTECTION LEVEL: D	
TOT DPTH: 115FT.		DEPTH TO ∇ 10.32 FT.			
LOGGED BY: W. Colby-George		WELL DEVELOPMENT DATE:		SITE: 16 - S.W. Landfill	

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS Continued from PAGE 1	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
				SAA		SP		
45				SAND - white, medium.		SP		
50				SAND - yellow brown, some fine, trace gravel.		SP		
55				SAA		SP		
60				SAA		SP		
65				SAA		SP		
70				SAA		SP		
75				SAND - fine sand, purple gravel.		SP		
80						SP		

TITLE: NAVAL AIR STATION WHITING FIELD		LOG of WELL: WHF-16-3D	BORING NO.
CLIENT: SOUTHNAVFACENGCOM			PROJECT NO: RI PHASE IIA
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 01/22/93	COMPLTD: 01/26/93
METHOD: MUD ROTARY	CASE SIZE: 2"	SCREEN INT.: 105-115 FT	PROTECTION LEVEL: D
TOC ELEV.: 51.47 FT.	MONITOR INST.: OVA	TOT DPTH: 115FT.	DPTH TO ∇ 10.32 FT.
LOGGED BY: W. Colby-George	WELL DEVELOPMENT DATE:		SITE: 16 - S.W. Landfill

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
Continued from PAGE 2									
					SAND - yellow, medium to coarse, trace clay.		SP		
85					SAA		SP		
90					SAA		SP		
95					SILTY SAND - gray, clay 6".		SM		
100					SAA, no clay.		SM		
105					SAA		SM		
110					SILTY SAND - gray, clay, very plastic.		SM		
115							SP		
120									

TITLE: NAVAL AIR STATION WHITING FIELD				LOG of WELL: WHF-16-3I		BORING NO.	
CLIENT: SOUTHNAVFACENGCOM						PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.				DATE STARTED: 01/26/93		COMPLTD: 01/26/93	
METHOD: MUD ROTARY		CASE SIZE: 2"		SCREEN INT.: 45-50 FT		PROTECTION LEVEL: D	
TOC ELEV.: 51.54 FT.		MONITOR INST.: OVA		TOT DPTH: 22FT.		DPTH TO ∇ 13.04 FT.	
LOGGED BY: W. Colby-George		WELL DEVELOPMENT DATE:				SITE: 16 - S.W. Landfill	

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
5					SEE WHF-16-3D FOR LITHOLOGICAL DESCRIPTION.				
10									
15									
20									
25									
30									
35									
40									
45									
50									
55									
60									

TITLE: NAVAL AIR STATION WHITING FIELD		LOG of WELL: WHF-16-3II		BORING NO.	
CLIENT: SOUTHNAVFACENGCOM				PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.			DATE STARTED: 01/25/93		COMPLTD: 01/25/93
METHOD: MUD ROTARY		CASE SIZE: 2"		SCREEN INT.: 75-80 FT	
TOC ELEV.: 51.31 FT.		MONITOR INST.: OVA		TOT DPTH: 80FT.	
LOGGED BY: W. Colby-George		WELL DEVELOPMENT DATE:		PROTECTION LEVEL: □	
				DEPTH TO V: 13.38 FT.	
				SITE: 16 - S.W. Landfill	

DEPTH FT.	INTERVAL SAMPLED	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/B-IN	WELL DATA
5				SEE WHF-16-3D FOR LITHOLOGICAL DESCRIPTION.				
10								
15								
20								
25								
30								
35								
40								









TITLE: NAVAL AIR STATION WHITING FIELD		LOG of WELL: WHF-16-3II		BORING NO.	
CLIENT: SOUTHNAVYFACENGCOM				PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.			DATE STARTED: 01/25/93		COMPLTD: 01/25/93
METHOD: MUD ROTARY		CASE SIZE: 2"		SCREEN INT.: 75-80 FT	
TOC ELEV.: 51.31 FT.		MONITOR INST.: OVA		PROTECTION LEVEL: D	
TOT DPTH: 80 FT.		DEPTH TO V: 13.38 FT.			
LOGGED BY: W. Colby-George		WELL DEVELOPMENT DATE:		SITE: 16 - S.W. Landfill	

DEPTH FT.	INTERVAL SAMPLED	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS Continued from PAGE 1	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
45								
50								
55								
60								
65								
70								
75								
80								

TITLE: NAVAL AIR STATION WHITING FIELD		LOG of WELL: WHF-16-3S	BORING NO.
CLIENT: SOUTHNAVFACENGCOM		PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 01/22/93	COMPLTD: 01/22/93
METHOD: HSA	CASE SIZE: 2"	SCREEN INT.: 5-20 FT	PROTECTION LEVEL: D
TOC ELEV.: 51.75 FT.	MONITOR INST.: OVA	TOT DPTH: 22FT.	DPTH TO ∇ 13.65 FT.
LOGGED BY: W. Colby-George	WELL DEVELOPMENT DATE:		SITE: 16 - S.W. Landfill

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
5					SEE WHF-16-3D FOR LITHOLOGICAL DESCRIPTION.		SP		
10							SP		
15							SP		
20							SP		
25									
30									
35									
40									

TITLE: NAVAL AIR STATION WHITING FIELD		LOG of WELL: WHF-16-4D		BORING NO. N/A	
CLIENT: SOUTHNAVFACENGCOM				PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.			DATE STARTED: 02/02/93		COMPLTD: 02/18/93
METHOD: MUD ROT.		CASE SIZE: 6" & 2"		SCREEN INT.: 109-119 FT	
TOC ELEV.: 52.95 FT.		MONITOR INST.: OVA		TOT DPTH: 121 FT.	
LOGGED BY: M. Alvarez		WELL DEVELOPMENT DATE:			SITE: 16 - Wastewater Pit.

DEPTH F.T.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
5		18/24	0	SILTY SAND - Light brown, poorly graded, slightly plastic, loose, moist.		SM	3,5,7,18	
10		22/24	0	Same As Above, yellowish brown, 1 in. clay lense.		SM		
15		22/24	0	SAND - tan to reddish brown, fine to medium, 2" layer of sandy silt, loose, and wet.		SP		
20		10/24	< 1	SAND - tan, fine, poorly graded, loose, wet.		SP		
25		20/24	5	SAND - tan, fine to coarse, little fine gravel, trace silt, well graded, loose, wet.		SW		
30		04/24	1	SAND - tan, coarse, loose, poorly graded, wet.		SP		
35		20/24	20	SAND - tan, coarse, some medium to fine sand, well graded, wet.		SW		
40		12/24	3	Same As Above.		SW		

TITLE: NAVAL AIR STATION WHITING FIELD		LOG of WELL: WHF-16-4D	BORING NO. N/A
CLIENT: SOUTHNAVFACENGCOM		PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 02/02/93	COMPLTD: 02/18/93
METHOD: MUD ROT.	CASE SIZE: 6" & 2"	SCREEN INT.: 109-119 FT	PROTECTION LEVEL: D
TOC ELEV.: 52.95 FT.	MONITOR INST.: OVA	TOT DPTH: 121FT.	DPTH TO ∇ 14.16 FT.
LOGGED BY: M. Alvarez	WELL DEVELOPMENT DATE:		SITE: 16 - Wastewater Pit.

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS Continued from PAGE 1	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
46		12/24	2	SAND - purple to yellow, fine, trace silt, poorly graded, wet.		SP		
51		08/24	2.5	SAND - pinkish tan, fine to medium, poorly graded, wet.		SP		
56		08/24	2.5	Same As Above.		SP		
61		08/24	5	SAND - tan to purple, fine to coarse, with shell fragments.		SP		
66		08/24	0	CLAY - grey and red mottled firm, plastic.		CL		
		24/24	0	CLAY - grey, lenses of purple and orange very fine sand, firm, very plastic.				
71		08/24	< 1	SAND - light tan, fine, poorly graded, trace silt, wet.		SP	3,5,4,3	
76		20/24	---	CLAY - light tan, low plasticity, sharp contact at 74 ft. to SAND, moderate reddish brown, fine to medium, poorly graded.		CL/SP	1,1,2,4	
81		18/24	---	SAND - yellowish orange, fine to some medium, poorly graded, wet.		SP	11,22,24,27	

TITLE: NAVAL AIR STATION WHITING FIELD		LOG of WELL: WHF-16-4D	BORING NO. N/A
CLIENT: SOUTHNAVFACENGCOM			PROJECT NO: RI PHASE IIA
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 02/02/93	COMPLTD: 02/18/93
METHOD: MUD ROT.	CASE SIZE: 6" & 2"	SCREEN INT.: 109-119 FT	PROTECTION LEVEL: D
TOC ELEV.: 52.95 FT.	MONITOR INST.: OVA	TOT DPTH: 121 FT.	DPTH TO ∇: 14.16 FT.
LOGGED BY: M. Alvarez	WELL DEVELOPMENT DATE:		SITE: 16 - Wastewater Pit.

DEPTH F.T.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS Continued from PAGE 2	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
87		12/24	---	SAND - purple to brown, fine to medium, poorly graded, wet.		SP	4,8,10,14	
92		24/24	0	SAND - tan to purple, fine, poorly graded.		SP	15,26,22,18	
97		22/24	0	SAND - tan to greyish brown, fine, poorly graded, wet, some coarse at 90 ft.		SP	14,18,18,15	
102		18/24	2	SAND - tan to purple, fine, poorly graded, wet.		SP	13,23,22,24	
107		23/24	2	SAND - tan to yellowish orange, fine, poorly graded, wet, some coarse.		SP	13,17,27,29	
112		06/24	0	Same As Above.		SP	5,4,3,3	
117		20/24	---	SAND - greyish purple, yellow bands, fine, poorly graded, wet.		SP		
122		07/24	---	SAND - yellowish orange, fine to medium, poorly sorted to 119 ft., over 3 in. of purple angular gravel, over 9 in. of CLAY, grey, tight, highly plastic, stiff.		CL	DROP	

TITLE: NAVAL AIR STATION WHITING FIELD		LOG of WELL: WHF-16-4II	BORING NO.
CLIENT: SOUTHNAVFACENGCOM		PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 02/04/93	COMPLTD: 02/05/93
METHOD: MUD ROTARY	CASE SIZE: 2"	SCREEN INT.: 50-60	PROTECTION LEVEL: D
TOC ELEV.: 53.06 FT.	MONITOR INST.: OVA	TOT DPTH: 60.5FT.	DPTH TO ∇ 14.19 FT.
LOGGED BY: G. Kanchibhatla	WELL DEVELOPMENT DATE:		SITE: 16 - S.W. Landfill

DEPTH FT.	LABORATORY SAMPLE ID.	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
5				PLEASE REFER TO 16-4D FOR LITHOLOGIC DATA.				
10								
15								
20								
25								
30								
35								
40								
45								
50								
55								
60		24/24	N/A	CLAY - gray, red to yellow lenses, very fine sand, firm, moderately plastic.		CL	2,2,4,8	
65								

TITLE: NAVAL AIR STATION WHITING FIELD		LOG of WELL: WHF-16-4S	BORING NO.
CLIENT: SOUTHNAVFACENGCOM		PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 02/03/93	COMPLTD: 02/04/93
METHOD: HSA	CASE SIZE: 2"	SCREEN INT.: 5-20 FT	PROTECTION LEVEL: D
TOC ELEV.: 54.92 FT.	MONITOR INST.: OVA	TOT DPTH: 21FT.	DPH TO ∇: 16.66 FT.
LOGGED BY: N. Haglin	WELL DEVELOPMENT DATE:		SITE: 16 - Open Disposal/Burn Area

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
5		18/24	0	SILTY SAND - fine, ash, glass, and metal.			6,9,12,14	
			0	SILTY SAND - reddish brown, fine, poorly graded with a 2" lens of light grey sandy clay at 5 ft. bls. moist.		SM	15,17,20,24	
10		12/24	0	Same as above, grey silty lenses at depth.		SM	7,16,17,15	
15		22/24	0	Same as above, tan to reddish brown, saturated.		SM	2,4,5,7	
20								
25								
30								
35								
40								

TITLE: NAVAL AIR STATION WHITING FIELD				LOG of WELL: WHF-16-5		BORING NO.			
CLIENT: SOUTHNAVFACEGCOM						PROJECT NO: RI PHASE IIA			
CONTRACTOR: Groundwater Protection Inc.				DATE STARTED: 7/27/93		COMPLTD: 7/27/93			
METHOD: HSA		CASE SIZE: 2"		SCREEN INT.: 0-10 FT		PROTECTION LEVEL: D			
TOC ELEV.: FT.		MONITOR INST.: OVA		TOT DPTH: 10FT.		DPTH TO ∇: 1.2 FT.			
LOGGED BY: S. Consalvi		WELL DEVELOPMENT DATE:				SITE: 16 Flood plain			
DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
5					SAMPLES WERE NOT TAKEN DURING INSTALLATION OF THIS WELL. IT IS LOCATED IN THE FLOOD PLAIN AND WAS INSTALLED BY HAND.				
10									
15									
20									
25									
30									
35									

TITLE: NAVAL AIR STATION WHITING FIELD				LOG of WELL: WHF-17-IS		BORING NO.	
CLIENT: SOUTHNAVFACENGCOM						PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.				DATE STARTED: 7/18/93		COMPLTD: 7/27/93	
METHOD: MUD ROTARY		CASE SIZE: 8"/2"		SCREEN INT.: 98-113 FT		PROTECTION LEVEL: D	
TOC ELEV.: 185.48 FT.		MONITOR INST.: OVA		TOT DPTH: 115 FT.		DPTH TO ∇: 111.45 FT.	
LOGGED BY: N. Roka/G. Walker		WELL DEVELOPMENT DATE:				SITE: 17 - Fire Training	

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
5		24/24	0.2	GRAVELLY SILT - red, firm to soft, moist.		GM	4,9,5,8	
10		16/24	0.3	SAND - red, fine, poorly graded, medium dense, moist.		SP	4,8,5,8	
15		14/24	BKG	SAND - light tan, fine to medium, poorly graded, medium dense, slightly moist, subrounded.		SP	7,10,11,18	
20		12/24	BKG	SAND - red, fine to medium, poorly graded, moderately dense to dense, subangular to angular.		SP	11,19,21,27	
25		16/24	0.2	SAND - whitish green to pink, very fine to fine, poorly graded, dense, dry.		SP	14,19,27,33	
30		12/24	0.1	SAND - pinkish tan, very fine to medium, poorly graded, dense, moist.		SP	11,23,24,28	
35		24/24	BKG	CLAY - gray to purple, fat, very plastic, soft.		CH	3,4,5,9	
		21/24	0.3	CLAYEY SAND - purple, loose, soft, moist.		SP	9,10,10,12	
				SAND - very fine to fine, poorly graded, medium dense, damp.		SP		
40						SP		

TITLE: NAVAL AIR STATION WHITING FIELD		LOG of WELL: WHF-17-IS		BORING NO.
CLIENT: SOUTHNAVFACENGCOM			PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 7/16/93		COMPLTD: 7/27/93
METHOD: MUD ROTARY	CASE SIZE: 8"/2"	SCREEN INT.: 98-113 FT	PROTECTION LEVEL: D	
TOC ELEV.: 185.48 FT.	MONITOR INST.: OVA	TOT DPTH: 115FT.	DPTH TO ∇: 111.45 FT.	
LOGGED BY: N. Roka/G. Walker	WELL DEVELOPMENT DATE:		SITE: 17 - Fire Training	

DEPTH FT.	LABORATORY SAMPLE ID.	RECOVERY SAMPLE	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
				Continued from PAGE 1				
		16/24	0	SAND - very pale orange, very fine to fine, poorly graded, moist		SP	8,8,10,12	
45		20/24	0	Same as above, trace of clay, bottom 8" wet.		SP	8,4,8,9	
50		24/24	0	CLAYEY SAND - medium tan with occasional red splotch, very fine to fine, wet, medium stiff, mottled, little clay.		SC	4,4,4,5	
55		24/24	0	CLAY - very pale orange, red mottling. SAND - very pale orange with reddish lens, very fine to fine, well sorted, moist.		CL/SP	20,22,29,27	
80		14/24	0	SAND - very pale orange, fine, poorly graded, moist, very stiff.		SP	32,35,37,31	
85		24/24	0	Same as above, clay lens 4" from bottom.		SP	17,19,22,23	
70		10/24	0	Same as above.		SP	32,37,39,41	
75		16/24	0	Same as above.		SP	29,32,37,40	
80						SP		

TITLE: NAVAL AIR STATION WHITING FIELD		LOG of WELL: WHF-17-IS	BORING NO.
CLIENT: SOUTHNAVFACENGCOM		PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 7/18/93	COMPLTD: 7/27/93
METHOD: MUD ROTARY	CASE SIZE: 8"/2"	SCREEN INT.: 98-113 FT	PROTECTION LEVEL: D
TOC ELEV.: 195.49 FT.	MONITOR INST.: OVA	TOT DPTH: 115FT.	DPTH TO ∇: 111.45 FT.
LOGGED BY: N. Roka/G. Walker	WELL DEVELOPMENT DATE:		SITE: 17 - Fire Training

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
Continued from PAGE 2								
		19/24	0	Same as above, mottled moderate pink.		SP	20,19,32,43	
85		7/24	0	Same as above.		SP	31,37,41,43	
90		18/24	0	SAND - very pale orange, fine to medium, well sorted, wet, very dense.		SP	39,38,41,47	
95		5/24	0	SAND - very pale orange, fine to medium, well sorted, wet.		SP	48,50,-	
100		5/24	0	Same as above, saturated.		SP	49,50,50,-	
105		14/24	0	Same as above, angular to subangular sand particals.		SP	26,28,39,50	
110								
115								
120								

TITLE: NAVAL AIR STATION WHITING FIELD				LOG of WELL: WHF-17-2		BORING NO.	
CLIENT: SOUTHNAVFACENGCOM						PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.				DATE STARTED: 2/23/93		COMPLTD: 3/07/93	
METHOD: HSA		CASE SIZE: 2 in.		SCREEN INT.: 104-119 FT		PROTECTION LEVEL: D	
TOC ELEV.: 197.47 FT.		MONITOR INST.: OVA		TOT DPTH: 120FT.		DPTH TO ∇ 114.21 FT.	
LOGGED BY: G. Kanchibhatla, R. Nelson				WELL DEVELOPMENT DATE:		SITE: 17 - Fire Training	

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
5		20/24	0	SANDY CLAY - birck red, soft, slightly moist.	— — — — — — — — —	SC	2,3,3,4	
10		00/24	0	SANDY CLAY - SAA.	— — — — — — — — —	SC	4,7,8,10	
15		14/24	0	SAND - brick red, very fine to fine, poorly graded, loose, dry.	— — — — — — — — —	SP	2,4,5,5	
20		12/24	0	SAND - SAA, white to light red.	— — — — — — — — —	SP	3,5,8,14	
25		14/24	0	SAND - white to light red, fine to medium, some coarse, well graded, dry.	• • • • • • • • •	SW	6,12,10,8	
30		18/24	0	SANDY CLAY - purple to yellow to white bands, soft, trace silt, moist.	— — — — — — — — —	SC	5,4,6,8	
35		20/24	0	SANDY CLAY - SAA, moist.	— — — — — — — — —	SC	2,3,4,4	
40			0		— — — — — — — — —	CL	3,4,6,8	

TITLE: NAVAL AIR STATION WHITING FIELD		LOG of WELL: WHF-17-2	BORING NO.
CLIENT: SOUTHNAVFACENGCOM			PROJECT NO: RI PHASE IIA
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 2/23/93	COMPLTD: 3/07/93
METHOD: HSA	CASE SIZE: 2 in.	SCREEN INT.: 104-119 FT	PROTECTION LEVEL: D
TOC ELEV.: 197.47 FT.	MONITOR INST.: OVA	TOT DPTH: 120FT.	DPTH TO ∇ 114.21 FT.
LOGGED BY: G. Kanchibhatla, R. Nelson		WELL DEVELOPMENT DATE:	SITE: 17 - Fire Training

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
Continued from PAGE 1								
		20/24		CLAY - brick red, purple to yellowish orange mottling, dry.		CL		
		20/24	0	CLAY - gray, moderately stiff, plastic.		CL	8,9,11,14	
		20/24	0	CLAY - gray, moderately stiff, plastic.		CL	9,6,9,11	
45		20/24						
50			0	SILTY SAND - purple to white, mottled yellow, fine, poorly graded, saturated. CLAY (4") - light gray, soft, plastic.		SM/CH	5,5,4,12	
55		08/24	2	SAND - off-white to yellow, fine to coarse, poorly graded, moist.		SP	21,22,19,24	
60		12/24	1	SAND - white, fine to coarse, poorly graded.		SP	22,23,23,25	
65		14/24	N/A	SAND - SAA.		SP/CH	19,22,20,24	
70		14/24	0	SAND - SAA, red sand lense (1/4"), dry.		SP	12,12,19,23	
75		12/24	0	SAND - white, fine, poorly graded, dry.		SP	23,28,34,45	
80								

TITLE: NAVAL AIR STATION WHITING FIELD		LOG of WELL: WHF-17-2	BORING NO.
CLIENT: SOUTHNAVFACENGCOM			PROJECT NO: RI PHASE IIA
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 2/23/93	COMPLTD: 3/07/93
METHOD: HSA	CASE SIZE: 2 in.	SCREEN INT.: 104-119 FT	PROTECTION LEVEL: D
TOC ELEV.: 197.47 FT.	MONITOR INST.: OVA	TOT DPTH: 120FT.	DPTH TO ∇ 114.21 FT.
LOGGED BY: G. Kanchibhatla, R. Nelson		WELL DEVELOPMENT DATE:	SITE: 17 - Fire Training

DEPTH F.T.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
Continued from PAGE 2								
		14/24	N/A	SAND - SAA, 4" pink sand, trace silt, moist.		SP	20,21,16,15	
85		20/24	N/A	SANDY SILT (4") - pink, saturated. SAND (3") - light brown, fine, poorly graded. CLAY (3") - gray, soft, plastic. SAND (3") - white, fine, poorly graded.		SP/SM/CH	20,25,38,44	
90		16/24	N/A	SAND - white to light brown, fine, poorly graded, slightly moist.		SP	54,60,refusl	
95		14/24	N/A	SAND - light tan, medium to coarse, poorly graded, moist.		SP	30,28,45,57	
100		24/24	N/A	SILTY SAND - tan, black streaks, fine, trace coarse, trace clay, soft, plastic, moist.		SM	47,24,66,ref	
105		06/24	5	SAND - tan, well graded, saturated.		SW	35,refusal	
110		20/24	1	Description N/A.		SW	21,21,33,45	
115		18/24	2	SAND - tan, medium, poorly graded.		SP	48,32,23,30	
120								

TITLE: NAVAL AIR STATION WHITING FIELD				LOG of WELL: WHF-17-3		BORING NO. N/A	
CLIENT: SOUTHNAVFACENGCOM						PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.				DATE STARTED: 7/13/93		COMPLTD: 7/14/93	
METHOD: HSA		CASE SIZE: 2 in.		SCREEN INT.: 109-124 FT		PROTECTION LEVEL: D	
TOC ELEV.: 201.82 FT.		MONITOR INST.: OVA		TOT DPTH: 125FT.		DPTH TO ∇ 117.7 FT.	
LOGGED BY: N. Roka		WELL DEVELOPMENT DATE:				SITE: 17 - Fire Training	

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
5		22/24	BKG	SILTY SAND - orange, fine, poorly graded, loose, dry, subrounded.		SM	3,3,4,4	
10		15/24	BKG	CLAYEY SAND - red, fine, some silt, poorly graded, medium dense, dry, orange, mottling.		SC	3,7,8,11	
15		23/24	0.5	SILTY SAND - red, fine to medium, poorly graded, medium dense, dry, subrounded to subangular.		SM	7,11,7,9	
20		16/24	0.5	SAND - light orange, fine to medium, poorly graded, medium dense.		SP	4,8,14,20	
25		19/24	BKG	SAND - light yellow, fine to medium, poorly graded, medium dense, dry.		SP	7,10,14,18	
35		24/24	0	SILTY SAND - light pink, trace clay, poorly graded, medium dense, moist, subrounded.		SM	15,11,10,11	
40		16/24	0.5	SAND - light pink, very fine to medium, poorly graded, medium dense, dry, subrounded.		SP	5,9,16,18	
45			0			SC	10,8,8,9	

TITLE: NAVAL AIR STATION WHITING FIELD		LOG of WELL: WHF-17-3	BORING NO. N/A
CLIENT: SOUTHNAVFACENGCOM			PROJECT NO: RI PHASE IIA
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 7/13/93	COMPLTD: 7/14/93
METHOD: HSA	CASE SIZE: 2 in.	SCREEN INT: 109-124 FT	PROTECTION LEVEL: D
TOC ELEV.: 201.82 FT.	MONITOR INST.: OVA	TOT DPTH: 125FT.	DPTH TO ∇ 117.7 FT.
LOGGED BY: N. Roka	WELL DEVELOPMENT DATE:		SITE: 17 - Fire Training

DEPTH FT.	LABORATORY SAMPLE ID.	RECOVERY SAMPLE	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
Continued from PAGE 1								
		20/24		SANDY CLAY - light pink, fine to medium sand, moderately loose, slightly moist, low plasticity.		SC		
50		20/24	0.5	CLAY - gray, moderate plasticity, soft, slightly moist.		SP	5,15,13,20	
				SAND - white to orange, fine, poorly graded, dense, dry, subrounded.				
55		24/24	0	Same as above, very fine to fine.		SP	W0R,13,20,27	
80		24/24	1.0	Same as above, fine to medium.		SP	18,19,17,29	
85		24/24	0.5	SAND - fine to medium, poorly graded, medium dense, dry, subrounded.		SP	12,12,18,22	
				SILTY SAND - pinkish gray, medium dense.				
70		20/24	1.0	SAND - very fine to fine, poorly graded medium dense, dry, subrounded.		SP	14,18,15,18	
				SAND - pinkish gray to white, fine to medium, poorly graded, dense, dry, subangular.				
75		16/24	0.5	SAND - white to orange, very fine to fine, poorly graded, dense, dry, subrounded to subangular.		SP	18,27,34,37	
80		22/24	0.5	SAND - gray, very fine to fine, poorly graded, dry, subrounded.		SP	17,19,16,21	
85		18/24	1.0	SAND - light tan to pink, fine, poorly graded, very dense, dry, subangular.		SP	14,22,35,28	
90			0.5			SP	12,17,30,44	

TITLE: NAVAL AIR STATION WHITING FIELD		LOG of WELL: WHF-17-3	BORING NO. N/A
CLIENT: SOUTHNAVFACENGCOM		PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 7/13/93	COMPLTD: 7/14/93
METHOD: HSA	CASE SIZE: 2 in.	SCREEN INT: 109-124 FT	PROTECTION LEVEL: D
TOC ELEV.: 201.82 FT.	MONITOR INST.: OVA	TOT DPTH: 125FT.	DPTH TO ∇: 117.7 FT.
LOGGED BY: N. Roka	WELL DEVELOPMENT DATE:		SITE: 17 - Fire Training

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/8-IN	WELL DATA
Continued from PAGE 2								
		18/24		Same as above, trace medium.		SP		
95		20/24	1.0	Same as above, light tan, subrounded.		SP	WOR,45,80,87	
100		20/24	0	SAND - purple, medium, poorly graded, very dense, dry, subrounded to subangular.		SP	40,45,38,41	
105		24/24	0.5			SW	18,22,20,20	
110		24/24	0.5	Same as above, yellow grading to rust at 0.75 ft.		SW	21,23,19,22	
115		24/24	0	Same as above, rust, saturated.		SW	WOR,20,21,19	
120								
125								
130								
135								

TITLE: NAVAL AIR STATION WHITING FIELD				LOG of WELL: WHF-18-2		BORING NO.	
CLIENT: SOUTHNAVFACENGCOM						PROJECT NO: R1 PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.				DATE STARTED: 2/21/93		COMPLTD: 2/22/93	
METHOD: MUD ROTARY		CASE SIZE: 2 in.		SCREEN INT.: 90-105 FT		PROTECTION LEVEL: D	
TOC ELEV.: 164.84 FT.		MONITOR INST.: OVA		TOT DPTH: 107FT.		DPTH TO ∇ 96.02 FT.	
LOGGED BY: G. Kanchibhatla		WELL DEVELOPMENT DATE:				SITE: 18 - Fire Training	

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
5		20/24	0	SAND - tan to dark tan, very fine to fine, poorly graded, loose, dry.		SP	2,3,2,3	
10		18/24	0	SAND - SAA, yellowish orange.		SP	3,4,5,8	
15		18/24	0	SAND - SAA, white w/ yellowish orange bands.		SP	5,10,11,14	
20		16/24	0	SAND - yellowish orange, fine to medium, well graded, moderately dense, trace silt, dry.		SW	7,10,10,11	
25		18/24	0	SAND (4") - yellowish orange, fine, poorly graded, loose, trace silt, dry. SANDY CLAY (2") - light purple, dry. SAND (12") - white, very fine to fine, poorly graded, loose, dry.		SP	7,9,10,11	
30		18/24	0	SAND - white to light yellow and yellowish orange bands, very fine, trace coarse, poorly graded, loose, dry.		SP	5,6,8,10	
35		18/24	0	SAND - yellowish orange to tan, fine, poorly graded, loose, dry.		SP	6,11,11,15	
40			0			CL/SP	2,8,12,12	

TITLE: NAVAL AIR STATION WHITING FIELD		LOG of WELL: WHF-18-2	BORING NO.
CLIENT: SOUTHNAVFACENGCOM		PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 2/21/93	COMPLTD: 2/22/93
METHOD: MUD ROTARY	CASE SIZE: 2 in.	SCREEN INT.: 90-105 FT	PROTECTION LEVEL: D
TOC ELEV.: 164.84 FT.	MONITOR INST.: OVA	TOT DPTH: 107FT.	DPTH TO ∇: 96.02 FT.
LOGGED BY: G. Kanchibhatla	WELL DEVELOPMENT DATE:		SITE: 18 - Fire Training

DEPTH FT.	LABORATORY SAMPLE ID.	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
Continued from PAGE 1								
		20/24		CLAY (6") - gray, pink mottling. SAND (14") - yellowish orange, fine to coarse, poorly graded, dry.		CL/SP		
45		20/24	0	SAND - white, fine to coarse, poorly graded, loose, dry.		SP	12,18,10,26	
50		22/24	0	SAND - white, very fine, trace coarse, poorly graded, loose, dry.		SP	11,17,20,22	
55		22/24	0	SAND - white, fine, trace coarse, poorly graded, loose, dry.		SP	24,20,32,44	
60		22/24	0	SAND - SAA, trace very fine to fine, black chips.		SP	16,26,31,36	
65		22/24	0	SAND - SAA, trace medium.		SP	16,22,31,34	
70		22/24	0	SAND - SAA.		SP	14,20,25,26	
75		22/24	1	SAND - very fine to fine, poorly graded, loose, dry.		SP	17,25,35,37	
80			0			SP	10,15,15,18	

TITLE: NAVAL AIR STATION WHITING FIELD		LOG of WELL: WHF-18-2	BORING NO.
CLIENT: SOUTHNAVFACENGCOM			PROJECT NO: RI PHASE IIA
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 2/21/93	COMPLTD: 2/22/93
METHOD: MUD ROTARY	CASE SIZE: 2 in.	SCREEN INT.: 90-105 FT	PROTECTION LEVEL: D
TOC ELEV.: 104.84 FT.	MONITOR INST.: OVA	TOT DPTH: 107FT.	DPTH TO ∇ 96.02 FT.
LOGGED BY: G. Kanchibhatla	WELL DEVELOPMENT DATE:		SITE: 18 - Fire Training

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
Continued from PAGE 2									
		18/24			SAND (12") - yellowish orange, fine to medium, poorly graded, moderately dense, slightly moist.		SP		
					SILTY/CLAYEY SAND (8") - bands of silty sand and clayey sand, fine, yellowish orange, purple bands, slightly moist.				
85		18/24		1	SAND - white to yellowish orange, purple bands, fine to coarse, well graded, some silt, slightly moist.		SW	11,12,14,18	
90		22/24		0	SAND - white, purple top 2", fine to trace coarse.		SP	18,30,32,20	
95		22/24		0	SAND - white, fine, poorly graded, saturated.		SP	11,14,14,17	
100		22/24		0	SAND - white to light purple, fine to medium, trace coarse poorly graded, moderately dense, saturated.		SP	10,3,15,19	
105									
110									
115									
120									

TITLE: NAVAL AIR STATION WHITING FIELD				LOG of WELL: WHF-18-3		BORING NO.	
CLIENT: SOUTHNAVFACENGCOM						PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.				DATE STARTED: 6/27/93		COMPLTD: 6/27/93	
METHOD: MUD ROTARY		CASE SIZE: 2 in.		SCREEN INT.: 95-110 FT		PROTECTION LEVEL: D	
TOC ELEV.: 176.21 FT.		MONITOR INST.: OVA		TOT DPTH: 112FT.		DPTH TO ∇ 104.58 FT.	
LOGGED BY: A. Cohen		WELL DEVELOPMENT DATE:				SITE: 18 - Fire Training	

DEPTH F.T.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
5		1.0/2.0	0	SAND - pale orange-brown to orange-brown, very fine to medium, poorly sorted.		SP	2,2,3,2	
10		2.0/2.0	0	SAND - orange brown, fine, well graded, 2" sandy clay lense, slightly plastic.		SP	4,4,8,7	
15		1.5/2.0	0	SAND - white, very fine, well graded, very fine black phosphatic grains scattered.		SP	8,14,12,7	
20		1.5/2.0	0	SAND - SAA, multiple striations of white, orange-brown, tan, & very pale purple.		SP	7,8,15,15	
25		1.8/2.0	0	SAND - very pale purple to pale moderate red, medium, well graded, mottled, slightly moist.		SP	9,14,12,16	
30		1.7/2.0	0	SAND - SAA, multiple striations of white, orange-brown, very pale orange, tan, very light tan.		SP	19,16,23,24	
35		1.5/2.0	0	SAND - fine to medium, well graded, striations of orange-brown, white, pale moderate red, light tan, very pale orange, & very pale purple, moist.		SP	16,19,21,23	
40			0			SP	8,9,16,14	

TITLE: NAVAL AIR STATION WHITING FIELD		LOG of WELL: WHF-18-3		BORING NO.	
CLIENT: SOUTHNAVFACENGCOM				PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.			DATE STARTED: 6/27/93		COMPLTD: 6/27/93
METHOD: MUD ROTARY		CASE SIZE: 2 in.		SCREEN INT.: 95-110 FT	
TOC ELEV.: 176.21 FT.		MONITOR INST.: OVA		TOT DPTH: 112FT.	
LOGGED BY: A. Cohen		WELL DEVELOPMENT DATE:			SITE: 18 - Fire Training

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
Continued from PAGE 1								
		1.8/2.0		SAND - white, fine, poorly sorted, moist.		SP		
45		1.8/2.0	0	SAND - SAA, fine to medium, trace coarse, striations.		SP	12,12,16,15	
50		1.8/2.0	N/A	SAND - dark moderate red to pale gray, very fine to fine, trace clay & silt, moist.		SP	9,8,8,11	
55		2.0/2.0	0	CLAYEY SAND - dark moderate red, pale gray, mottled, moist. CLAY - pale gray, slight dark moderate red mottling, plastic, trace sand. SILTY SAND - tan to white, very fine to fine, striations.		SC	11,9,16,18	
60		1.0/2.0	0	SAND - white, very fine to fine, well graded, moist.		SP	12,14,21,23	
65		1.5/2.0	0	SAND - light tan to white, very fine to fine, well graded.		SP	16,25,36,50	
70		2.0/2.0	0	SAND - white, fine to medium, trace coarse, striations, dense.		SP	28,36,47,45	
75		2.0/2.0	0	SAND - white, very fine to fine, well graded, stirations.		SP	18,30,28,30	
80			0			SP	14,16,20,21	

TITLE: NAVAL AIR STATION WHITING FIELD		LOG of WELL: WHF-18-3	BORING NO.
CLIENT: SOUTHNAVFACENGCOM			PROJECT NO: RI PHASE IIA
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 8/27/93	COMPLTD: 6/27/93
METHOD: MUD ROTARY	CASE SIZE: 2 in.	SCREEN INT.: 95-110 FT	PROTECTION LEVEL: D
TOC ELEV.: 176.21 FT.	MONITOR INST.: OVA	TOT DPTH: 112FT.	DPTH TO ∇ 104.58 FT.
LOGGED BY: A. Cohen	WELL DEVELOPMENT DATE:		SITE: 18 - Fire Training

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
Continued from PAGE 2								
		1.8/2.0		SAND - white to olive green, very fine to fine, well graded, moist.		SP		
85		1.8/2.0	0	SAND - very light tan to olive gray, fine, well graded, moist. graded, some silt, slightly moist.		SP	12,13,16,19	
90		2.0/2.0	0	SAND - fine to medium, striations, moist.		SP	36,39,41,52	
95		1.5/2.0	0	SAND - fine to medium, well graded, striations, moist.		SP	WOR,25	
100		1.8/2.0	0	SAND - fine to medium, well graded, striations, saturated.		SP	25,35,29,40	
105		2.0/2.0	0	SAND - pale yellow-orange, fine to medium, well graded, saturated.		SP	22,25,31,35	
110		2.0/2.0	N/A	SAND - light tan, fine to medium, saturated.		SP	3,8,12,25	
115								
120								

TITLE: Naval Air Station Whiting Field				LOG of WELL: WHF-29-1		BORING NO.			
CLIENT: SOUTHNAVFACENGCOM						PROJECT NO: RI PHASE IIA			
CONTRACTOR: Groundwater Protection Inc.				DATE STARTED: 6/08/93		COMPLTD: 6/08/93			
METHOD: Hollow Stem Auger		CASE SIZE: 2"		SCREEN INT.: 125-140 FT.		PROTECTION LEVEL: D			
TOC ELEV.: 193.95 FT.		MONITOR INST.: OVA		TOT DPTH: 141FT.		DPTH TO ∇ 127.52 FT.			
LOGGED BY: D. Wong		WELL DEVELOPMENT DATE:				SITE: 29 - HOBBY SHOP			
DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
5					SEE WHF-29-2 FOR ADDITIONAL LITHOLOGICAL DESCRIPTIONS.				
6									
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

TITLE: Naval Air Station Whiting Field		LOG of WELL: WHF-29-1	BORING NO.
CLIENT: SOUTHNAVFACENGCOM		PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 6/08/93	COMPLTD: 6/08/93
METHOD: Hollow Stem Auger	CASE SIZE: 2"	SCREEN INT.: 125-140 FT.	PROTECTION LEVEL: D
TOC ELEV.: 193.95 FT.	MONITOR INST.: OVA	TOT DPTH: 141FT.	DPTH TO ▽: 127.52 FT.
LOGGED BY: D. Wong	WELL DEVELOPMENT DATE:		SITE: 29 - HOBBY SHOP

DEPTH F.T.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS Continued from PAGE 1	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
55									
60									
65									
70									
75									
80									
85									
90									
95									
100									

TITLE: Naval Air Station Whiting Field		LOG of WELL: WHF-29-1		BORING NO.	
CLIENT: SOUTHNAVFACENGCOM				PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.			DATE STARTED: 6/08/93		COMPLTD: 6/08/93
METHOD: Hollow Stem Auger		CASE SIZE: 2"		SCREEN INT.: 125-140 FT.	
TOC ELEV.: 193.95 FT.		MONITOR INST.: OVA		TOT DPTH: 141FT.	
LOGGED BY: D. Wong		WELL DEVELOPMENT DATE:		SITE: 29 - HOBBY SHOP	
PROTECTION LEVEL: D		DEPTH TO ∇: 127.52 FT.			

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
				Continued from PAGE 2				
105								
110		2.0/2.0	0	SANDY CLAY - dark brown to red to purple, mottle orange, fine, very firm, low plasticity, LITHO CHANGE Bottom 5 in. SAND - off-white, fine loose, dry.		SC	29,30,refusl	
115								
120								
125								
130		2.0/2.0	0	SAND - off-white, trace fine to medium to coarse, some silt, saturated		SW	8,15,36,38	
135		2.0/2.0	0	Same As Above. SANDY CLAY - gray to purple, mottle orange-brown, medium to coarse, low plasticity, moist.		SW/CL	17,21,32,42	
140								
145								
150								

TITLE: Naval Air Station Whiting Field		LOG of WELL: WHF-29-2		BORING NO.	
CLIENT: SOUTHNAVFACENGCOM				PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.			DATE STARTED: 6/12/93		COMPLTD: 6/13/93
METHOD: Hollow Stem Auger		CASE SIZE: 2"		SCREEN INT.: 122-137 FT.	
TOC ELEV.: 191.87 FT.		MONITOR INST.: OVA		PROTECTION LEVEL: B,D	
LOGGED BY: D. Wong		TOT DPTH: 139FT.		DPTH TO ∇ 128.54 FT.	
WELL DEVELOPMENT DATE:			SITE: 29		

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
5								
10		2.0/2.0	1	SILT (1') - brown, stiff, fill material, dry. CLAY (1') - light gray, very stiff, low plasticity, dry.		MH/CL	4,10,14,16	
15								
20		0.8/2.0	0.5	CLAY (5") - Same As Above. SAND (4") - brown, fine to medium, some silt, loose, dry.		CL/SP	2,8,16,20	
25								
30		1.5/2.0	0	SAND - off-white fine, loose, stained by light orange silt, dry.		SP	2,8,16,20	
35								
40			0			CL/SP	8,19,24,26	

TITLE: Naval Air Station Whiting Field		LOG of WELL: WHF-29-2	BORING NO.
CLIENT: SOUTHNAVFACENGCOM			PROJECT NO: RI PHASE IIA
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 6/12/93	COMPLTD: 6/13/93
METHOD: Hollow Stem Auger	CASE SIZE: 2"	SCREEN INT.: 122-137 FT.	PROTECTION LEVEL: B,D
TOC ELEV.: 191.87 FT.	MONITOR INST.: OVA	TOT DPTH: 139FT.	DPTH TO ∇ 128.54 FT.
LOGGED BY: D. Wong	WELL DEVELOPMENT DATE:		SITE: 29

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
Continued from PAGE 1								
45		1.5/2.0		SILTY CLAY (6") - light gray to light brown, plastic soft, moist. SAND (1') - light gray to off-white, fine, trace silt, dry.		CL/SP		
50		1.5/2.0	0	SILTY SAND - off-white to light tan, firm, dry.		SM	18,19,31,25	
55								
60		1.8/2.0	1	SAND - light gray, fine some silt, stiff, moist.		SP	8,9,17,21	
65								
70		1.5/2.0	1	SAND - SAA, trace coarse, sub-rounded to rounded, trace pink silt.		SP	10,14,14,21	
75								
80			1			SP	21,31,32,35	

TITLE: Naval Air Station Whiting Field		LOG of WELL: WHF-29-2	BORING NO.
CLIENT: SOUTHNAVFACENGCOM			PROJECT NO: RI PHASE IIA
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 6/12/93	COMPLTD: 6/13/93
METHOD: Hollow Stem Auger	CASE SIZE: 2"	SCREEN INT.: 122-137 FT.	PROTECTION LEVEL: B,D
TOC ELEV.: 191.87 FT.	MONITOR INST.: OVA	TOT DPTH: 139FT.	DPTH TO ∇ 126.54 FT.
LOGGED BY: D. Wong	WELL DEVELOPMENT DATE:		SITE: 29

DEPTH F.T.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
Continued from PAGE 2								
		1.5/2.0		SAND - off-white to light pink, fine, trace silt, dry.		SP		
85			3.5	SAND - off-white to light pink, fine, red clay lense, high plasticity, soft, some silt, dry.		SP	8,14,18,25	
		1.7/2.0						
90			5	SAND (1') - light pink to pink, fine, some silt, dry. SAND (7") - yellow, trace silt, loose, dry.		SP	15,26,27,27	
		1.6/2.0						
95			7	SAND (5") - orange to red, fine, some silt, loose, moist, SAND (1') - off-white, fine, trace silt, stiff, moist.		SP	0,0,refusal	
		1.4/2.0						
100			15	SAND - off-white, fine, stiff.		SP	WOR,40,ref.	
		1.2/2.0						
105			20	SAND - SAA.		SP	30,37,ref.	
		1.7/2.0						
110			20	SAND - SAA, with light pink tinge.		SP	WOR,30,ref.	
		1.5/2.0						
115			7	SAND - SAA, light pink to off-white, trace silt.		SP	refusal	
		1.2/2.0						
120			3			SW	N/A	

TITLE: Naval Air Station Whiting Field		LOG of WELL: WHF-29-2	BORING NO.
CLIENT: SOUTHNAVFACENGCOM			PROJECT NO: RI PHASE IIA
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 6/12/93	COMPLTD: 6/13/93
METHOD: Hollow Stem Auger	CASE SIZE: 2"	SCREEN INT.: 122-137 FT.	PROTECTION LEVEL: B,D
TOC ELEV.: 191.87 FT.	MONITOR INST.: OVA	TOT DPTH: 139FT.	DPTH TO ▽: 126.54 FT.
LOGGED BY: D. Wong	WELL DEVELOPMENT DATE:		SITE: 29

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
Continued from PAGE 3								
		1.2/2.0		SAND (7") - purple to red, fine to coarse, well graded. SAND (7") - off-white, dense, trace silt.		SW		
125		1.0/2.0	2	SAND - off-white, fine to coarse, well graded, dense, trace silt, sub-angular.		SW	N/A	
130		2.0/2.0	1	SAND - light tan, fine to medium, firm, saturated.		SP	N/A	
135		2.0/2.0	7	SAND - SAA, 5" silty clay lense, mottled purple, stiff, plastic.		CL	N/A	
140								
145								
150								
155								
160								

TITLE: Naval Air Station Whiting Field				LOG of WELL: WHF-29-3		BORING NO.	
CLIENT: SOUTHNAVFACENGCOM						PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.				DATE STARTED: 6/11/93		COMPLTD: 6/11/93	
METHOD: Hollow Stem Auger		CASE SIZE: 2"		SCREEN INT.: 124-139 FT.		PROTECTION LEVEL: B,D	
TOC ELEV.: 194.39 FT.		MONITOR INST.: OVA		TOT DPTH: 140FT.		DPTH TO ∇ 128.73 FT.	
LOGGED BY: D. Wong		WELL DEVELOPMENT DATE: N/A				SITE:	

DEPTH F.T.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
5			0.6/2.0	1	SILT - yellow orange, moderately dense, some fine sand (<5%), dry.	▨	ML	N/A	
15			1.0/2.0	0	SILT (6") - Same As Above, Bottom (6") - SANDY CLAY - light gray to dark off-white, plastic, stiff, dry.	▨	ML/CL	N/A	
25			1.1/2.0	0	SANDY CLAY (2") - Same As Above. ace silt, loose, dry. SILTY SAND (2") - dark reddish-brown, stiff, brittle, dry. SAND (2") - orange to red, fine, some silt. SAND (2") - SAA, light gray. SAND (2") - SAA, light gray, banded pink. SAND (3") - SAA, golden yellow.	▨	SC/SP	N/A	
35				0		▨	SC	N/A	

TITLE: Naval Air Station Whiting Field		LOG of WELL: WHF-29-3		BORING NO.	
CLIENT: SOUTHNAVFACENGCOM				PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.			DATE STARTED: 6/11/93		COMPLTD: 6/11/93
METHOD: Hollow Stem Auger		CASE SIZE: 2"		SCREEN INT.: 124-139 FT.	
TOC ELEV.: 194.39 FT.		MONITOR INST.: OVA		TOT DPTH: 140FT.	
LOGGED BY: D. Wong		WELL DEVELOPMENT DATE: N/A			SITE:

DEPTH F.T.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
Continued from PAGE 1								
		2.0/2.0		SILTY CLAY (1') - maroon, mottled light gray, plastic, soft. SANDY CLAY (1') - light gray, fine sand, low plasticity, stiff.		SC		
40								
45		1.5/2.0	0	CLAYEY SAND (6") - light gray, fine, soft, moderate plasticity. SAND (1') - white to pink, fine, trace silt, dry.		SC	N/A	
50								
55		1.6/2.0	0	SAND - light gray to off-white, banded light brown, fine, some silt, dense, dry.		SP	N/A	
60								
65		1.6/2.0	0	CLAYEY SAND (6") - light gray, mottled maroon, stiff, moderate plasticity. SAND (6") - light orange to brown, lense of coarse sand, sub-angular, some silt. SAND (6") - light gray to off-white to light orange-brown, fine, trace silt and clay, moist.		SP/SC	N/A	
70								





TITLE: Naval Air Station Whiting Field		LOG of WELL: WHF-29-3		BORING NO.	
CLIENT: SOUTHNAVFACENGCOM				PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.			DATE STARTED: 6/11/93		COMPLTD: 6/11/93
METHOD: Hollow Stem Auger		CASE SIZE: 2"		SCREEN INT.: 124-139 FT.	
TOC ELEV.: 194.39 FT.		MONITOR INST.: OVA		TOT DPTH: 140FT.	
LOGGED BY: D. Wong		WELL DEVELOPMENT DATE: N/A			SITE:

DEPTH F.T.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS Continued from PAGE 2	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
75			1.6/2.0	0	SILTY SAND (5") - pink, fine, dry. SAND (1.1') - off-white, banded pink, fine, some silt, stiff, dry.		SP/SM	N/A	
80									
85			1.6/2.0	1	SAND (8") - SAA, fine, brownish yellow. CLAY (4") - light gray, soft to moderately stiff, plastic. SANDY CLAY (7") - maroon, mottled light gray, stiff, moderate plasticity, some sand, trace silt.		SP/CH/CL	N/A	
90			2.0/2.0	1	SILTY SAND - light gray, banded pink, fine, stiff, moist.		SM	N/A	
95			1.5/2.0	20	SAND - banded maroon, orange-yellow, off-white and light yellow, fine, some silt, dry.		SP	N/A	
100			1.3/2.0	4	SAND (8") - banded brownish yellow, dark maroon, light pink, fine, some silt, stiff. SAND (8") - off-white, SAA.		SP	N/A	
105				18			SP	N/A	

TITLE: Naval Air Station Whiting Field		LOG of WELL: WHF-29-3	BORING NO.
CLIENT: SOUTHNAVFACENGCOM			PROJECT NO: RI PHASE IIA
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 6/11/93	COMPLTD: 6/11/93
METHOD: Hollow Stem Auger	CASE SIZE: 2"	SCREEN INT.: 124-139 FT.	PROTECTION LEVEL: B.D
TOC ELEV.: 194.39 FT.	MONITOR INST.: OVA	TOT DPTH: 140FT.	DPTH TO ∇ 128.73 FT.
LOGGED BY: D. Wong	WELL DEVELOPMENT DATE: N/A		SITE:

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
Continued from PAGE 3								
		1.5/2.0		SAND (4") - yellow to brown, fine, some silt. SAND (1.1') - off-white to light pink, fine, trace silt, stiff, dry.		SP		
110		1.3/2.0	110	SAND - off-white, fine, trace silt.		SP	N/A	
115		1.5/2.0	46	Same As Above.		SP	N/A	
120		1.6/2.0	120	SAND - brownish yellow to pink to off-white, fine to coarse, well graded, trace silt, sub-rounded, dry.		SW	N/A	
125		0.8/2.0	12	SAND - SAA, brownish yellow to off-white, dry.		SW	N/A	
130		2.0/2.0	7	SAND (1') - off-white fine, saturated. CLAYEY SAND (1') - tan to brownish yellow, mottled maroon, some silt, stiff, moderate plasticity.		SP/SC	N/A	
135		2.0/2.0	7	SILTY SAND - yellow to light brown, mottled maroon, fine, stiff, brittle, saturated.		SM	N/A	
140								

TITLE: Naval Air Station Whiting Field				LOG of WELL: WHF-29-4		BORING NO.	
CLIENT: SOUTHNAVACENGCOM						PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.				DATE STARTED: 6/10/93		COMPLTD: 6/10/93	
METHOD: MUD ROTARY		CASE SIZE: 2"		SCREEN INT.: 124-139 FT		PROTECTION LEVEL: B, D	
TOC ELEV.: 196.21 FT.		MONITOR INST.: FID		TOT DPTH: 142FT.		DPTH TO ∇: 129.96 FT.	
LOGGED BY: D. Wong		WELL DEVELOPMENT DATE:				SITE: 29	

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
				CLAYEY SAND - light brown to light tan, fill material, some silt, dry.		SC		
5								
10		1.5/2.0	0	SILTY SAND - brown, mottled purple and light gray, some clay, low plasticity, firm, moist. SANDY CLAY - dark purple, fine grained, dark tan mottling, trace silt.		SM	5,11,14,13	
15								
20		1.0/2.0	0	SAND - interbedded purple, light brown, off-white, light gray, fine, some silt, light yellow-orange, dry.		SP	3,6,18,23	
25								
30		1.0/2.0	0	SAND - yellow to orange to off-white, fine to medium, loose.		SP	10,17,21,13	
35								
40			0			SP	4,18,45,50	

TITLE: Naval Air Station Whiting Field		LOG of WELL: WHF-29-4	BORING NO.
CLIENT: SOUTHNAVFACENGCOM		PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 6/10/93	COMPLTD: 6/10/93
METHOD: MUD ROTARY	CASE SIZE: 2"	SCREEN INT.: 124-139 FT	PROTECTION LEVEL: B, D
TOC ELEV.: 196.21 FT.	MONITOR INST.: FID	TOT DPTH: 142FT.	DPTH TO ∇: 129.96 FT.
LOGGED BY: D. Wong	WELL DEVELOPMENT DATE:		SITE: 29

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
Continued from PAGE 1								
		1.8/2.0		SILTY CLAY - top 6 IN., mottle yellow-brown, purple, and light gray, soft, plastic. LITHO CHANGE - SAND - 1 FT., pale light gray to light pink, fine, dense, little silt, dry.		SP		
45								
50		1.5/2.0	0	SAND - Same As Above.		SP	5,14,25,25	
55		1.5/2.0	0	SAND - off-white, fine, banded light pink, Bottom 3 IN. CLAYEY SAND - soft, plastic.		SP/SC	6,14,16,30	
60		1.0/2.0	0	SAND - off-white to pale light olive gray, fine, moderately dense, dry.		SP	8,20,28,35	
65		1.8/2.0	0	SAND - off-white and purple-red, fine, banded orange-brown, some silt, dry.		SP	21,32,19,12	
70		1.5/2.0	0	CLAYEY SAND - Top 6 IN., dark gray clay, fine to medium, moderate plasticity, soft, Bottom 1 FT - SAND - fine.		SC	5,17,25,30	
75		1.4/2.0	0	SAND - off-white to light pink, fine, moderately dense, dry.		SP	11,13,30,30	
80			0			SP	16,28,44,30	

TITLE: Naval Air Station Whiting Field		LOG of WELL: WHF-29-4	BORING NO.
CLIENT: SOUTHNAVFACENGCOM		PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 6/10/93	COMPLTD: 6/10/93
METHOD: MUD ROTARY	CASE SIZE: 2"	SCREEN INT.: 124-139 FT	PROTECTION LEVEL: B, D
TOC ELEV.: 196.21 FT.	MONITOR INST.: FID	TOT DPTH: 142FT.	DPTH TO ∇: 129.96 FT.
LOGGED BY: D. Wong	WELL DEVELOPMENT DATE:		SITE: 29

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
Continued from PAGE 2								
		1.6/2.0		SAND - off-white to light pink, fine to medium, moderately dense, dry.		SP		
85		1.3/2.0	0	SAND - off-white to pink, trace cobbles, white quartz, rounded.		SP	19,40,refusl	
90		1.3/2.0	0	SAND - off-white to pink, fine, banded orange-brown, little silt, stiff, dry.		SP	25,43,refusl	
95			0.8	SAND - light yellow, fine, trace silt, dry.		SP	17,refusal	
100		0.2/2.0	0.8	Same as above.		SP	refusal	
105		1.3/2.0	0.8	SAND - very light pale olive gray to off-white, fine, banded brown, some silt, moist.		SP	28,45,refusl	
110		1.6/2.0	0.8	SAND - off-white, fine, moderately dense, moist.		SP	42,refusal	
115		1.2/2.0	0.8	Same As Above.		SP	15,41,refusl	
120			0			SP	39,46,refusl	

TITLE: Naval Air Station Whiting Field		LOG of WELL: WHF-29-4		BORING NO.	
CLIENT: SOUTHNAVFACENGCOM				PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.			DATE STARTED: 6/10/93		COMPLTD: 6/10/93
METHOD: MUD ROTARY		CASE SIZE: 2"		SCREEN INT.: 124-139 FT	
TOC ELEV.: 196.21 FT.		MONITOR INST.: FID		TOT DPTH: 142FT.	
LOGGED BY: D. Wong		WELL DEVELOPMENT DATE:			PROTECTION LEVEL: B, D
					DEPTH TO ∇ 129.96 FT.
					SITE: 29

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
Continued from PAGE 3								
		1.2/2.0		Same As Above.		SP		
125		1.6/2.0	2	SAND - orange-pink to off-white, fine to medium, trace silt.		SP	17,36,34,30	
130		1.0/2.0	8	SAND - off-white, fine saturated.		SP	43,17,refusl	
135		2.0/2.0	4	SAND - light pale beige, fine to coarse, well graded, quartz, sub-rounded, Bottom 0.5 FT. - SAND CLAY - mottled purple, brown, yellow, tan, some silt, stiff, low plasticity.		SW/CL	5,16,32,50	
140								
145								
150								
155								
160								

TITLE: Naval Air Station Whiting Field				LOG of WELL: WHF-29-5		BORING NO.	
CLIENT: SOUTHNAVFACENGCOM						PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.				DATE STARTED: 6/09/93		COMPLTD: 6/09/93	
METHOD: Hollow Stem Auger		CASE SIZE: 2"		SCREEN INT.: 117-132 FT.		PROTECTION LEVEL: D	
TOC ELEV.: 193.8 FT.		MONITOR INST.: OVA		TOT DPTH: 134FT.		DPTH TO ▽: 124.1 FT.	
LOGGED BY: D. Wong		WELL DEVELOPMENT DATE:				SITE: 29 - HOBBY SHOP	

DEPTH FT.	LABORATORY SAMPLE ID.	RECOVERY HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
5			CLAYEY SAND - tan to brown, fine, fill material, dry.		SC		
10		1.5/2.0	CLAYEY SAND - purple to light gray, fine sand, stiff, low plasticity, dry.		SC	5,8,14,19	
15		0.0/2.0	No Recovery.			3,7,10,16	
20		0.5/2.0	SAND - purple red to pale red, fine, trace silt, dry.		SP	2,9,9,15	
25		1.0/2.0	SAND - off-white, fine, trace silt, loose, dry.		SP	9,12,17,17	
30		1.5/2.0	Same As Above, trace medium sand, sub rounded, slightly dense.		SP	6,6,13,18	
35		1.7/2.0	SAND - off-white to light pale red, very fine. some mediumd, trace silt, loose, dry.		SP	9,15,18,19	
40		1.8/2.0	SAND - off-white to light pale gray, very fine, slightly dense, slightly moist.		SP	7,10,15,18	
45		0			SP	15,20,28,40	





TITLE: Naval Air Station Whiting Field		LOG of WELL: WHF-29-5	BORING NO.
CLIENT: SOUTHNAVFACENGCOM			PROJECT NO: RI PHASE IIA
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 6/09/93	COMPLTD: 6/09/93
METHOD: Hollow Stem Auger	CASE SIZE: 2"	SCREEN INT.: 117-132 FT.	PROTECTION LEVEL: D
TOC ELEV.: 193.8 FT.	MONITOR INST.: OVA	TOT DPTH: 134FT.	DPTH TO ∇ 124.1 FT.
LOGGED BY: D. Wong	WELL DEVELOPMENT DATE:		SITE: 29 - HOBBY SHOP

DEPTH F.T.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
Continued from PAGE 1								
		0.8/2.0		SAND - off-white, fine, banded with light pale red, trace silt.		SP		
50		1.0/2.0	0	Same As Above, banded layers more reddish-orange.		SP	19,40,50,ref	
55		0.8/2.0	0	Same As Above, reddish orange.		SP	8,30,refusal	
60		1.0/2.0	0	SAND - light pale reddish-orange, fine, little light gray clay, low to medium plasticity, soft, damp, trace silt.		SP	8,18,17,19	
65		1.2/2.0	0	Same As Above, some clay, moist.		SP	10,11,10,9	
70		1.0/2.0	0	SAND - off-white, fine, loose, moist.		SP	17,23,37,30	
75		0.8/2.0	0	Same As Above, some coarse.		SP	12,25,32,37	
80		1.0/2.0	0.8	SAND - off-white to light pale orange, dense, dry.		SP	19,28,32,35	
85		2.0/2.0	0.8	Same As Above, top 6 in. - LITHO CHANGE - CLAY - light pale olive gray, fat, very plastic, medium stiff. - LITHO CHANGE - SAND - Bottom 6 in. Same As Above.		SP	6,21,39,35	
90			0			SP	10,16,36,43	

TITLE: Naval Air Station Whiting Field		LOG of WELL: WHF-29-5	BORING NO.
CLIENT: SOUTHNAVFACENGCOM		PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 6/09/93	COMPLTD: 6/09/93
METHOD: Hollow Stem Auger	CASE SIZE: 2"	SCREEN INT.: 117-132 FT.	PROTECTION LEVEL: D
TOC ELEV.: 193.8 FT.	MONITOR INST.: OVA	TOT DPTH: 134FT.	DPTH TO ∇ 124.1 FT.
LOGGED BY: D. Wong	WELL DEVELOPMENT DATE:		SITE: 29 - HOBBY SHOP

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
Continued from PAGE 2									
			1.0/2.0		SAND - pale orange to off-white, fine.		SP		
95			0.8/2.0	0	SAND - off-white, fine, slightly dense, dry.		SP	16,36,31,43	
100			1.0/2.0	0	Same As Above.		SP	16,40,refusl	
105			0.5/2.0	0	Same As Above.		SP	22,41,38,ref	
110			1.3/2.0	0	Same As Above.		SP	27,44,refusl	
115			1.2/2.0	0.8	Same As Above.		SP	22,24,refusl	
120			1.0/2.0	0.6	SAND - pale orange-red to off-white, fine to coarse, poorly graded, sub-rounded, some clay, light gray, wet.		SW	15,21,16,30	
			1.3/2.0	0.4	SAND - light beige to tan, very fine, saturated.		SP	27,48,refusl	
125			1.9/2.0	0.8	Same As Above, banded light pale red-pink sand, trace coarse, sub-rounded, saturated.		SP	11,28,33,42	
130			2.0/2.0	0.8	SAND - light pink, fine to coarse, trace clay and silt, light gray, subrounded, saturated.		SW	9,13,35,36	
135									

TITLE: Naval Air Station Whiting Field				LOG of WELL: WHF-30-3		BORING NO.	
CLIENT: SOUTHNAVFACENGCOM						PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.				DATE STARTED: 6/16/93		COMPLTD: 6/16/93	
METHOD: HSA		CASE SIZE: 2"		SCREEN INT.: 120-135 FT		PROTECTION LEVEL: D	
TOC ELEV.: 179.29 FT.		MONITOR INST.: FID/OVA		TOT DPTH: 142FT.		DPTH TO ∇ 121.92 FT.	
LOGGED BY: N. Roka		WELL DEVELOPMENT DATE:				SITE: 30	

DEPTH FT.	LABORATORY SAMPLE ID.	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
5								
10	22/24		BKG	SILTY CLAY - red to tan, Grade to CLAY - gray, firm, dry.		CL	2,4,6,8	
15								
20	19/24		BKG	SAND - purple with red banding, fine to medium, trace coarse, moderately well graded, moderately dense, dry, subangular.		SP	4,10,15,17	
25								
30	23/24		BKG	SAND - white, fine, to medium, poorly graded, medium dense, dry, subrounded to subangular.		SP	5,11,15,18	
35								
40	16/24		BKG	Same as above, light pink to orange, fine, thin red bands, CLAYEY SILT - pink to gray, medium fine sand		SP	12,9,6,12	

PSE, on 30/1/93
 ABB ENVIRONMENTAL SERVICES, INC.

TITLE: Naval Air Station Whiting Field		LOG of WELL: WHF-30-3	BORING NO.
CLIENT: SOUTHNAVFACENGCOM		PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 6/16/93	COMPLTD: 6/16/93
METHOD: HSA	CASE SIZE: 2"	SCREEN INT.: 120-135 FT	PROTECTION LEVEL: D
TOC ELEV.: 179.29 FT.	MONITOR INST.: FID/OVA	TOT DPTH: 142FT.	DPTH TO ∇ 121.92 FT.
LOGGED BY: N. Roka	WELL DEVELOPMENT DATE:		SITE: 30

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
Continued from PAGE 1									
		16/24					SP		
45									
50		24/24		BKG	Same as above, very light pinkish gray, fine, some silt.		SP	WOR,12,18	
55									
60		23/24		BKG	SAND - pink with orange bands, fine to medium, poorly graded, medium dense, dry.		SP	16,19,20,24	
65									
70		20/24		BKG	Same as above, no pink.		SP	7,12,14,19	
75									
80		20/24		BKG	Same as above, fine to medium, trace coarse, no bands, poorly graded, very dense, dry.		SP	17,21,25,29	

TITLE: Naval Air Station Whiting Field		LOG of WELL: WHF-30-3	BORING NO.
CLIENT: SOUTHNAVFACENGCOM		PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 6/16/93	COMPLTD: 6/16/93
METHOD: HSA	CASE SIZE: 2"	SCREEN INT.: 120-135 FT	PROTECTION LEVEL: D
TOC ELEV.: 179.29 FT.	MONITOR INST.: FID/OVA	TOT DPTH: 142FT.	DPTH TO ∇ 121.92 FT.
LOGGED BY: N. Roka	WELL DEVELOPMENT DATE:		SITE: 30

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
Continued from PAGE 2								
		20/24				SP		
85								
90		20/24	BKG	Same as above, SAND - pink, some fine to medium, moderately well graded, dry, subangular. SAND - whitish tan with thin orange bands, fine to medium, poorly graded, dry.		SP	WOR	
95								
100		18/18	BKG	SAND - light pinkish beige, fine to medium, trace coarse, very dense, subrounded to subangular.		SP	25,37,50,-	
105								
110		9/9	BKG	Same as above, whitish tan.		SP	50,50,-	
115								
120		6/6	BKG	SAND - white, to light tan, fine to medium, trace silt, poorly graded, very dense, dry, subangular.		SP	50,-	

TITLE: Naval Air Station Whiting Field		LOG of WELL: WHF-30-3	BORING NO.
CLIENT: SOUTHNAVFACENGCOM			PROJECT NO: RI PHASE IIA
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 6/16/93	COMPLTD: 6/16/93
METHOD: HSA	CASE SIZE: 2"	SCREEN INT.: 120-135 FT	PROTECTION LEVEL: D
TOC ELEV.: 179.29 FT.	MONITOR INST.: FID/OVA	TOT DPTH: 142FT.	DPTH TO ∇ 121.92 FT.
LOGGED BY: N. Roka	WELL DEVELOPMENT DATE:	SITE: 30	

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
Continued from PAGE 3									
			6/6						
125									
130			24/24	2.0	CLAY - red and gray mottled, firm, dry. CLAYEY SAND - orange and greenish gray, silt, moist, firm.		SP	50.-	
					SAND - red to yellowish beige, very fine, poorly graded, very dense, saturated.				
135			24/24	N/A	SAND - tan to brown, very fine, some silt, poorly graded, soft, saturated.		CH	WOR	
					CLAYEY SAND - red to tan to gray, banded, soft, moist.				
140					CLAY - gray and red mottled, stiff, damp, fat.				
					SAND - orange, fine to medium, silt, soft, saturated, subangular.				
145									
150									
155									
160									

TITLE: Naval Air Station Whiting Field				LOG of WELL: WHF-30-4		BORING NO.	
CLIENT: SOUTHNAVFACENGCOM						PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.				DATE STARTED: 6/14/93		COMPLTD: 6/14/93	
METHOD: HSA		CASE SIZE: 2"		SCREEN INT.: 123-138 FT		PROTECTION LEVEL: D	
TOC ELEV.: 181.86 FT.		MONITOR INST.: FID/OVA		TOT DPTH: 138FT.		DPTH TO ∇ 124.76 FT.	
LOGGED BY: N. Roka		WELL DEVELOPMENT DATE:				SITE: 30	

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
5								
10		22/24	BKG	CLAYEY SILT - red to yellowish orange, fine, medium dense, dry, Grade to sand, subrounded.		SM	4,7,9,15	
15		12/24	BKG	SAND - same as above, poorly graded.		SM	6,7,7,9	
20		19/24	BKG	SAND - red, fine, grade to white, fine to medium, medium dense, dry, subangular.		SP	4,9,12,12	
25		15/24	BKG	Same as above.		SP	6,11,13,15	
30		18/24	BKG	Same as above.		SP	5,11,16,16	
35		19/24	BKG	Same as above.		SP	15,26,27,29	
40			BKG			SC	7,8,9,11	

TITLE: Naval Air Station Whiting Field		LOG of WELL: WHF-30-4		BORING NO.	
CLIENT: SOUTHNAVFACENGCOM				PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.			DATE STARTED: 6/14/93		COMPLTD: 6/14/93
METHOD: HSA		CASE SIZE: 2"		SCREEN INT.: 123-138 FT	
TOC ELEV.: 181.86 FT.		MONITOR INST.: FID/OVA		TOT DPTH: 138FT.	
LOGGED BY: N. Roka		WELL DEVELOPMENT DATE:			SITE: 30

DEPTH F.T.	LABORATORY SAMPLE ID.	RECOVERY HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
Continued from PAGE 1							
	23/24		CLAYEY SAND - pink to light tan, fine, medium dense, dry.		SC		
45	22/24	BKG	SILTY SAND - pink to white with orange, fine, medium dense, dry.		SM	7,8,11,11	
50	8/24	N/A	SAND - white, fine, poorly graded, loose, dry, subrounded to subangular.		SP	WOR	
55	15/24	0.1	Same as above.		SP	10,11,13,11	
60	23/24	BKG	Same as above, some pink to peach, medium dense.		SP	13,16,16,20	
65	19/24	BKG	Same as above, pink to orange, medium.		SP	10,22,26,27	
70	17/24	BKG	Same as above - blowdown.		SP	WOR	
75	24/24	BKG	Same as above.		SP	28,33,38,41	
80		BKG			SP	18,29,34,42	

TITLE: Naval Air Station Whiting Field		LOG of WELL: WHF-30-4	BORING NO.
CLIENT: SOUTHNAVFACENGCOM			PROJECT NO: RI PHASE IIA
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 6/14/93	COMPLTD: 6/14/93
METHOD: HSA	CASE SIZE: 2"	SCREEN INT.: 123-138 FT	PROTECTION LEVEL: D
TOC ELEV.: 181.86 FT.	MONITOR INST.: FID/OVA	TOT DPTH: 138 FT.	DPTH TO ▽: 124.76 FT.
LOGGED BY: N. Roka	WELL DEVELOPMENT DATE:		SITE: 30

DEPTH FT.	LABORATORY SAMPLE ID.	RECOVERY SAMPLE	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
Continued from PAGE 2								
		18/24		SAND - white, fine to coarse, dense to very dense, little orange spots, blackish-gray discoloration, slight odor.		SP		
85								
90								
95		11/11	BKG	SAND - white to pale pink, very fine to fine, poorly graded, very dense, dry.		SP	34,50,-,-	
100		18/24	BKG	SAND - white with red banding, fine to trace coarse, poorly graded, very dense, dry, subangular.		SP	WOR/36,43	
105		23/24	1.5	SAND - red, fine to coarse, trace gravel. SAND - red with orange banding, fine to medium to trace coarse, moderately graded, very dense, slightly moist, subrounded to subangular.		SP	19,20,22,22	
110		19/24	0.5	SAND - white to pink, fine to medium, trace coarse, poorly graded, dense, moist, subrounded to subangular.		SP/SM	11,13,26,31	
115		16/18	7	SAND - orange to tan, fine to medium, poorly graded, very dense, slightly moist, subrounded.		SP	25,36,50,-	
120			BKG			SP	23,35,50,-	

TITLE: Naval Air Station Whiting Field		LOG of WELL: WHF-30-4	BORING NO.
CLIENT: SOUTHNAVFACENGCOM		PROJECT NO: R1 PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 6/14/93	COMPLTD: 6/14/93
METHOD: HSA	CASE SIZE: 2"	SCREEN INT.: 123-138 FT	PROTECTION LEVEL: D
TOC ELEV.: 181.86 FT.	MONITOR INST.: FID/OVA	TOT DPTH: 138FT.	DPTH TO ∇: 124.76 FT.
LOGGED BY: N. Roka	WELL DEVELOPMENT DATE:		SITE: 30

DEPTH F.T.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
Continued from PAGE 3								
		18/18		Same as above.		SP		
125		18/18	8.6	SAND - light tan, fine to coarse, moderately graded, very dense, moist, subangular. SAND - white, fine to medium, very dense, moist.		SP	19,28,50,-	
130		22/24	4.0	SAND - orange to tan, fine to coarse, trace gravel, very dense, saturated, subangular.		SP/CL	18,25,38,46	
		24/24	BKG	SANDY CLAY - red to gray mottled, moderately stiff, slightly moist.		SP	8,8,9,10	
135				SAND - red to tan, medium to coarse, trace fine, trace silt, moderately graded, medium dense, saturated.				
140								
145								
150								
155								
160								

TITLE: Naval Air Station Whiting Field				LOG of WELL: WHF-30-5		BORING NO.	
CLIENT: SOUTHNAVFACENGCOM						PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.				DATE STARTED: 6/23/93		COMPLTD: 6/25/93	
METHOD: HSA		CASE SIZE: 2"		SCREEN INT.: 149-159 FT		PROTECTION LEVEL: D	
TOC ELEV.: 182.15 FT.		MONITOR INST.: FID/OVA		TOT DPTH: 160FT.		DPTH TO ∇ 128.84 FT.	
LOGGED BY: A. Cohen		WELL DEVELOPMENT DATE:				SITE: 30	

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
5		1.8/2.0	0	SAND - moderate reddish brown, fine to medium, trace clay.		SP	4,6,8,20	
10		1.8/2.0	0	CLAYEY SAND - light brown to moderate red, fine to coarse, well graded.		SC	9,16,22,24	
15		1.9/2.0	0	SAND - moderate red, medium to coarse, well graded.		SP	18,23,25,28	
20		2.0/2.0	0	SANDY CLAY (8") - light brown to moderate red, fine, plastic. SAND (16") - moderate red, medium to coarse, well graded.		SC	8,11,15,16	
30		1.7/2.0	0	CLAYEY SAND (2") - moderate brown, fine to medium. SAND (2") - moderate red, medium to coarse, well graded. SAND (14") - white to light orange brown, very fine to fine.		SP	12,14,18,21	
40		1.9/2.0	0	SAND (12") - white, very fine to fine, very fine black phosphatic grains through out. SAND (12") - moderate red to orange to tan, mottled white, very fine to coarse.		SP	13,17,20,21	

TITLE: Naval Air Station Whiting Field		LOG of WELL: WHF-30-5	BORING NO.
CLIENT: SOUTHNAVFACENGCOM		PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 6/23/93	COMPLTD: 6/25/93
METHOD: HSA	CASE SIZE: 2"	SCREEN INT.: 149-159 FT	PROTECTION LEVEL: D
TOC ELEV.: 182.15 FT.	MONITOR INST.: FID/OVA	TOT DPTH: 160FT.	DPTH TO ∇: 128.84 FT.
LOGGED BY: A. Cohen	WELL DEVELOPMENT DATE:		SITE: 30

DEPTH F.T.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS Continued from PAGE 1	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
46		1.9/2.0				SP		
51		2.0/2.0	0	SAA		SP	8,13,15,14	
56								
61		2.0/2.0	0	SAND (12") - white, fine, well graded, fine black phosphatic grains. SAND (12") - very fine, silty, well graded, moderate red streaking.		SP	9,8,8,8	
66								
71		2.0/2.0	1	SAND - white, very fine to fine, scattered fine black phosphatic grains.		SP	11,13,13,15	
76								
81		1.5/2.0	0	SAND - white, fine to coarse, well graded, fine black phosphatic grains.		SP	11,15,18,27	

TITLE: Naval Air Station Whiting Field		LOG of WELL: WHF-30-5		BORING NO.	
CLIENT: SOUTHNAVFACENGCOM				PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.			DATE STARTED: 6/23/93		COMPLTD: 6/25/93
METHOD: HSA		CASE SIZE: 2"		SCREEN INT.: 149-159 FT	
TOC ELEV.: 182.15 FT.		MONITOR INST.: FID/OVA		PROTECTION LEVEL: D	
LOGGED BY: A. Cohen		WELL DEVELOPMENT DATE:		DPH TO ∇ 128.84 FT.	
			SITE: 30		

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
Continued from PAGE 2								
87			0	SAND - white to pink, fine to medium, trace coarse.		SP	11,16,23,25	
92		1.0/2.0						
97			0	SAND - light orange to yellowish brown, medium to coarse, trace gravel.		SP	24,32,36,40	
		1.5/2.0						
102			0	SAND - tan to pale orange, medium to coarse, trace pebbles, mottled.		SP	18,21,30,42	
		1.5/2.0						
107			0	SAND - white to pale yellow orange, very fine to medium, poorly sorted, trace pebbles, slightly moist.		SP	22,24,34,37	
		1.6/2.0						
112			0	SAND - white, fine to medium, clay lens, slightly moist.		SP	19,28,36,41	
		1.8/2.0						
117			0	SAND (18") - moderate yellow orange, medium to coarse, wet. CLAYEY SAND (6") - mottled gray and orangish brown, very fine to silty.		SP	5,8,5,9	
		2.0/2.0	N/A					
		2.0/2.0		SANDY SILT - yellow orange to pale gray, very fine, moist.		SM	13,16,19,26	
			N/A					
		2.0/2.0		CLAY - gray, moderate red to orange brown mottling, plastic.		CL	3,5,12,15	
122			N/A	CLAY - gray, plastic.			8,9,11,13	
		2.0/2.0						

TITLE: Naval Air Station Whiting Field		LOG of WELL: WHF-30-5		BORING NO.	
CLIENT: SOUTHNAVFACENGCOM				PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.			DATE STARTED: 6/23/93		COMPLTD: 6/25/93
METHOD: HSA		CASE SIZE: 2"		SCREEN INT.: 149-159 FT	
TOC ELEV.: 182.15 FT.		MONITOR INST.: FID/OVA		TOT DPTH: 160FT.	
LOGGED BY: A. Cohen		WELL DEVELOPMENT DATE:		PROTECTION LEVEL: D	
				DEPTH TO ∇ 128.84 FT.	
				SITE: 30	

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
Continued from PAGE 3									
			2.0/2.0				CL		
				N/A	CLAY - light gray, plastic.			6,9,13,14	
			2.0/2.0						
				N/A	CLAY - light gray to moderate yellowish brown,			11,13,18,22	
128			2.0/2.0		mottled, plastic, stiff.				
				N/A	CLAY - light gray to moderate yellowish brown,			7,12,18,20	
			2.0/2.0		plastic.		CL		
				N/A	CLAY - light gray to dark yellowish orange, stiff,			13,16,23,?	
133			2.0/2.0		slightly plastic, mottled.				
				N/A	CLAY - light gray, stiff, plastic.			12,9,12,18	
			2.0/2.0				CL		
138									
				N/A	CLAY - light gray to dark yellowish orange, mottled,			0,0,14,14	
			2.0/2.0		moderately stiff, plastic.		CL		
143									
				N/A	CLAY - light gray to dark yellowish orange, mosttled,			4,5,10,11	
			2.0/2.0		stiff, plastic, slightly moist.		CL		
148									
				N/A	CLAY (22") - light gray, moderately stiff, plastic.			0,0,0,0	
			2.0/2.0		SAND (2") - moderate red to dark yellowish orange,		CL		
153					medium to coarse, saturated.				
				N/A	CLAY (22") - gray to dark yellowish orange, mottled.			12,16,17,19	
			1.0/2.0		SAND (2") - dark yellowish orange, medium to coarse,		CL		
158					saturated.				
				N/A	SAND - dark yellowish orange, fine to medium, well			25,35,38,44	
			2.0/2.0		graded, saturated.		SP		
163									

TITLE: NAVAL AIR STATION WHITING FIELD				LOG of WELL: WHF-32-1		BORING NO.	
CLIENT: SOUTHNAVFACENGCOM						PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.				DATE STARTED: 01/19/93		COMPLTD: 01/22/93	
METHOD: HSA		CASE SIZE: 2"		SCREEN INT.: 95-110		PROTECTION LEVEL: B & C	
TOC ELEV.: FT.		MONITOR INST.: OVA		TOT DPTH: 110FT.		DPTH TO ∇ 100.09 FT.	
LOGGED BY: R. Nelson		WELL DEVELOPMENT DATE:				SITE: 32 - Northfield Hangar	

DEPTH F.T.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
(1-2')			0	SAND - dark brown, moist, some silty clay.		SC	Hand Auger	
(5-7')		20/24	0	SAND - light brown, fine, clay, poorly graded, moist to wet.		SC	1,1,1	
(10-12')		8/24	95	Same as above, red soft clay.		SC	2,3,4,4	
		1/24	95	SAND - light brown with pink clay, moist, low plasticity, soft.		SC	7,4,4,6	
		6/24	7	Same as above.			6,6,7,9	
(20-22')		24/24	9	SAND - reddish brown, fine, medium stiff, slightly moist.		SC	7,9,9,10	
		20/24	10	SAND - alternating bands of pink, white, and tan, fine, slightly moist, subrounded, poorly graded.		SP	3,5,4,4	
		20/24	60	Same as above.		SP	5,5,6,6	
		12/24	5	SAND - fine, trace coarse and silt, poorly graded and slightly moist.		SP	5,9,6,11	
						SP		

TITLE: NAVAL AIR STATION WHITING FIELD		LOG of WELL: WHF-32-1		BORING NO.	
CLIENT: SOUTHNAVFACENGCOM				PROJECT NO: R1 PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.			DATE STARTED: 01/19/93		COMPLTD: 01/22/93
METHOD: HSA		CASE SIZE: 2"		SCREEN INT.: 95-110	
TOC ELEV.: FT.		MONITOR INST.: OVA		TOT DPTH: 110FT.	
LOGGED BY: R. Nelson		WELL DEVELOPMENT DATE:		SITE: 32 - Northfield Hangar	
PROTECTION LEVEL: B & C		DEPTH TO ∇: 100.09 FT.			

DEPTH F.T.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
Continued from PAGE 1								
		20/24	50	SAND - white, fine, poorly graded, slightly moist.		SP	10,7,8,10	
45	(45-47')	24/24	160	Same as above, trace silt and coarse sand.		SP	12,9,9,8	
50		20/24	< 1	SAND - white, fine, poorly graded, sub-rounded, slightly moist, trace coarse sand.		SP	Pushed	
55		20/24	60	Same as above with some pink silty sand at 56.5 ft, no coarse sand.		SP	Pushed	
60	(61-63')	20/24	7	SAND - white, fine, poorly graded, subrounded, slightly moist.		SP	12,14,20,28	
65		18/24	6	Same as above, trace silt at 66 ft.		SP	5,9,14,16	
70		18/24	6	SAND - white, medium, poorly graded, trace coarse, slightly moist, subangular.		SP	5,8,12,14	
75		18/24	6	SAND - tan, fine to medium, poorly graded, trace coarse sand and silt.		SP	6,6,7,21	
80						SP		

TITLE: NAVAL AIR STATION WHITING FIELD		LOG of WELL: WHF-32-1		BORING NO.	
CLIENT: SOUTHNAVFACENGCOM				PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.			DATE STARTED: 01/19/93		COMPLTD: 01/22/93
METHOD: HSA		CASE SIZE: 2"		SCREEN INT.: 95-110	
TOC ELEV.: FT.		MONITOR INST.: OVA		TOT DPTH: 110FT.	
LOGGED BY: R. Nelson		WELL DEVELOPMENT DATE:			PROTECTION LEVEL: B & C
SITE: 32 - Northfield Hangar					

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
Continued from PAGE 2								
		20/24	1	SAND - tan, medium, poorly graded, sub-angular, trace coarse sand.		SP	7,11,14,14	
85		16/24	5	SAND - very fine, white and yellowish orange alternating 1/2" to 1" laminas, poorly graded, slightly moist, little silt.		SP	5,7,9,9	
90		18/24	5	SAND - white, very fine, poorly graded, slightly moist, sub-rounded.		SP	5,7,8,9	
95	(95-97)	20/24	3	Same as above, greyish white.		SP	5,6,10,11	
100		16/24	1500	SAND - greyish white, fine to medium, poorly graded, subrounded, saturated.		SP	6,9,14,17	
105		24/24	350	Same as above, trace silt.		SP	2,1,3,12	
110		24/24	500	Same as above.		SP	---	
115								
120								

TITLE: Naval Air Station Whiting Field			LOG of WELL: WHF-32-2		BORING NO.	
CLIENT: SOUTHNAVFACENGCOM					PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.			DATE STARTED: 6/27/93		COMPLTD: 6/28/93	
METHOD: HOLLOW STEM AUGER		CASE SIZE: 2"		SCREEN INT.: 96-111 FT		PROTECTION LEVEL: B,D
TOC ELEV.: 172.61 FT.		MONITOR INST.: FID & OVA		TOT DPTH: 112 FT.		DPTH TO ∇ 100.40 FT.
LOGGED BY: G. Kanchibhatla		WELL DEVELOPMENT DATE:			SITE: 32	

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
5			1.0/2.0	0	SILTY SAND - dark yellowish orange, fine, damp to dry.		SM	2,2,2,3	
10			1.8/2.0	<1	CLAYEY SILTY SAND - moderate reddish orange, fine to medium.		SM	6,7,7,9	
15			1.8/2.0	30	CLAYEY SAND - moderate reddish orange, fine to medium, damp.		SC	2,4,6,6	
20			1.8/2.0	30	CLAYEY SAND (10") SAND (10") - reddish orange, fine, damp.		SC/SP	2,3,10,5	
25			1.8/2.0	70	SAND - reddish orange, to yellowish orange, fine to medium.		SP	3,4,5,8	
30			1.8/2.0	70	SAND - pinkish gray, fine to medium, some silt, poorly graded, damp.		SP	5,6,9,10	
35			1.5/2.0	65	SAND - pinkish to yellowish gray, fine to medium, trace coarse & gravel, poorly graded, sub-angular.		SP	2,5,10,9	
40				300			SP	6,10,13,13	

TITLE: Naval Air Station Whiting Field		LOG of WELL: WHF-32-2	BORING NO.
CLIENT: SOUTHNAVFACENGCOM			PROJECT NO: RI PHASE IIA
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 6/27/93	COMPLTD: 6/28/93
METHOD: HOLLOW STEM AUGER	CASE SIZE: 2"	SCREEN INT.: 96-111 FT	PROTECTION LEVEL: B,D
TOC ELEV.: 172.61 FT.	MONITOR INST.: FID & OVA	TOT DPTH: 112 FT.	DPTH TO ∇ 100.40 FT.
LOGGED BY: G. Kanchibhatla	WELL DEVELOPMENT DATE:		SITE: 32

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
Continued from PAGE 1								
		1.5/2.0		SAND - pinkish gray, fine to medium, poorly graded, damp.		SP		
45		1.5/2.0	70	SAND - SAA, trace gravel.		SP	6,8,16,16	
50		1.8/2.0	5	SAND - light gray, fine, poorly graded, dry.		SP	6,16,16,13	
55		1.8/2.0	5	SAA.		SP	7,10,3,10	
60		1.5/2.0	40	CLAYEY SAND (3") - pale pink. SAND (15") - very light pinkish gray, fine.		SP	9,13,27,20	
65		1.8/2.0	10	SAA.		SP	9,20,24,30	
70		1.8/2.0	15	SAA.		SP	8,21,20,30	
75		2.0/2.0	10	SAND - very light gray, fine to medium, poorly graded, dry.		SP	9,20,33,32	
80			10			SP	10,28,28,30	

TITLE: Naval Air Station Whiting Field		LOG of WELL: WHF-32-2	BORING NO.
CLIENT: SOUTHNAVFACENGCOM		PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 6/27/93	COMPLTD: 6/28/93
METHOD: HOLLOW STEM AUGER	CASE SIZE: 2"	SCREEN INT.: 96-111 FT	PROTECTION LEVEL: B.D
TOC ELEV.: 172.61 FT.	MONITOR INST.: FID & OVA	TOT DPTH: 112FT.	DPTH TO ∇ 100.40 FT.
LOGGED BY: G. Kanchibhatla	WELL DEVELOPMENT DATE:		SITE: 32

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
Continued from PAGE 2								
		1.5/2.0		SAND - fine to medium, trace coarse, some silt, moderately well graded.		SP		
85		1.5/2.0	20	SAND - reddish orange to yellowish orange, fine, poorly graded, moist.		SP	9,16,22,19	
90		1.8/2.0	10	SAND - very light gray, very fine to fine, poorly graded, moist.		SP	9,18,24,26	
95		2.0/2.0	70	SAND - yellowish orange to reddish orange, very fine, pale pink bands, moist.		SP	15,15,16,20	
100		1.5/2.0	90	SAND - light gray, medium, 2" silty clayey sand at top, wet.		SP	13,26,17,21	
105		2.0/2.0	70	SAND - SAA, light yellow.		SP	?,12,19,20	
110								
115								
120								

TITLE: Naval Air Station Whiting Field				LOG of WELL: WHF-32-3		BORING NO.	
CLIENT: SOUTHNAVFACENGCOM						PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.				DATE STARTED: 6/26/93		COMPLTD: 6/26/93	
METHOD: HOLLOW STEM AUGER		CASE SIZE: 2"		SCREEN INT.: 95-110 FT		PROTECTION LEVEL: D, Mod. D	
TOC ELEV.: 172.58 FT.		MONITOR INST.: FID & OVA		TOT DPTH: 112FT.		DPTH TO ∇ 99.79 FT.	
LOGGED BY: G. Kanchibhatla		WELL DEVELOPMENT DATE:				SITE: 32	

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
5		1.5/2.0	1	SILTY SAND - light yellow to reddish orange, fine, some clay.		SM	3,6,10,11	
10		1.5/2.0	2	SAA.		SM	3,5,6,13	
15		1.5/2.0	4	SAA.		SM	3,5,5,8	
20		1.5/2.0	30	SAA.		SM	6,6,7,8	
25		1.75/2.0	15	SAND - pale yellow to light orange, fine, poorly graded, some silt, trace clay, trace grave, sub-rounded.		SP	4,6,6,8	
30		1.75/2.0	50	SAA - white, no silt.		SP	3,6,6,12	
35		2.0/2.0	110	SAA.		SP	3,6,8,8	
40			70			SP	10,14,16,21	

TITLE: Naval Air Station Whiting Field		LOG of WELL: WHF-32-3	BORING NO.
CLIENT: SOUTHNAVFACENGCOM			PROJECT NO: RI PHASE IIA
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 6/26/93	COMPLTD: 6/26/93
METHOD: HOLLOW STEM AUGER	CASE SIZE: 2"	SCREEN INT.: 95-110 FT	PROTECTION LEVEL: D, Mod. D
TOC ELEV.: 172.58 FT.	MONITOR INST.: FID & OVA	TOT DPTH: 112FT.	DPTH TO ∇ 99.79 FT.
LOGGED BY: G. Kanchibhatla	WELL DEVELOPMENT DATE:		SITE: 32

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
Continued from PAGE 1								
		2.0/2.0		SAA.		SP		
45		1.8/2.0	70	SAND - light gray, fine.		SP	7,12,15,23	
50		2.0/2.0	85	SAA.		SP	7,12,16,16	
55		2.0/2.0	100	SAA.		SP	6,13,15,9	
60		2.0/2.0	90	SAND - light gray, very fine.		SP	5,9,16,18	
65		2.0/2.0	50	SAA.		SP	6,10,16,20	
70		2.0/2.0	200	SAA.		SP	15,20,28,30	
75		2.0/2.0	240	SAA - some coarse.		SP	10,16,20,20	
80			600			SP	9,19,35,32	

TITLE: Naval Air Station Whiting Field		LOG of WELL: WHF-32-3		BORING NO.	
CLIENT: SOUTHNAVFACENGCOM				PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.			DATE STARTED: 6/26/93		COMPLTD: 6/26/93
METHOD: HOLLOW STEM AUGER		CASE SIZE: 2"	SCREEN INT.: 95-110 FT		PROTECTION LEVEL: D, Mod. D
TOC ELEV.: 172.58 FT.		MONITOR INST.: FID & OVA		TOT DPTH: 112FT.	DPTH TO ∇ 99.79 FT.
LOGGED BY: G. Kanchibhatla		WELL DEVELOPMENT DATE:			SITE: 32

DEPTH F.T.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
Continued from PAGE 2								
		2.0/2.0		SAND - very light gray, very fine, dry.		SP		
85		1.8/2.0	550	SAA.		SP	16,35,36,30	
90		1.8/2.0	300	SAA.		SP	16,34,31,41	
95		1.8/2.0	100	SAND - moderate reddish orange, pale yellow bands, some silt.		SP	0,16,27,31	
100		1.5/2.0	380	SAND - very light gray, fine, some silt, wet.		SP	0,0,23,28	
105		1.5/2.0	N/A	SAND - very light gray, fine, dense, wet.		SP	6,13,14,20	
110								
115								
120								

TITLE: Naval Air Station Whiting Field				LOG of WELL: WHF-32-4		BORING NO.	
CLIENT: SOUTHNAVFACENGCOM						PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.				DATE STARTED: 6/29/93		COMPLTD: 6/29/93	
METHOD: HOLLOW STEM AUGER		CASE SIZE: 2"		SCREEN INT.: 95-110 FT		PROTECTION LEVEL: D, Mod. D	
TOC ELEV.: 172.07 FT.		MONITOR INST.: FID & OVA		TOT DPTH: 112FT.		DPTH TO ▽: 99.98 FT.	
LOGGED BY: G. Kanchibhatla		WELL DEVELOPMENT DATE:				SITE: 32	

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
5		2.0/2.0	0	SILTY SAND - reddish brown, medium.	▨	SM	2,6,6,8	
10		2.0/2.0	0	SAA.	▨	SM	3,4,10,18	
15		1.8/2.0	N/A	CLAYEY SAND - pinkish gray to reddish orange, damp.	▤	SC	2,2,6,6	
20		1.8/2.0	40	CLAYEY SAND - pinkish gray, fiine, 1" clay lense at center of spoon.	▤	SC	4,3,4,8	
25		1.8/2.0	45	CLAYEY SAND - ligh yellow to pinkish gray, medium to coarse, some silt.	▤	SC	4,7,7,10	
30		1.8/2.0	35	SAND - light pinkish gray to reddish orange, very ifne to fine, some medium to coarse, damp.	▧	SP	4,7,15,10	
35		1.5/2.0	45	SAND - light pinkish gray to light gray, fine, some coarse, some silt, poorly graded, damp.	▧	SP	4,9,11,11	
40			20		▧	SP	6,10,18,24	

TITLE: Naval Air Station Whiting Field		LOG of WELL: WHF-32-4	BORING NO.
CLIENT: SOUTHNAVFACENGCOM		PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 6/29/93	COMPLTD: 6/29/93
METHOD: HOLLOW STEM AUGER	CASE SIZE: 2"	SCREEN INT.: 95-110 FT	PROTECTION LEVEL: D, Mod. D
TOC ELEV.: 172.07 FT.	MONITOR INST.: FID & OVA	TOT DPTH: 112FT.	DPTH TO ∇ 99.98 FT.
LOGGED BY: G. Kanchibhatla	WELL DEVELOPMENT DATE:		SITE: 32

DEPTH F.T.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS Continued from PAGE 1	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
				SAND - very light gray, fine, some coarse.		SP		
45		1.5/2.0	10	SAA.		SP	7,11,17,19	
50		1.8/2.0	<10	SAA.		SP	8,16,24,26	
55		1.8/2.0	6	SAA.		SP	9,16,26,24	
60		1.5/2.0	150	SILTY SAND (4") - pale pink, fine moist. SAND - light gray, very fine to fine.		SP	8,11,11,11	
65		1.8/2.0	110	SAND - very light gray, very fine to fine, 4" sandy clay lense at center of spoon, light pink.		SP	8,11,26,24	
70		1.8/2.0	40	SAND - very light gray, very fine to fine, damp.		SP	12,21,30,33	
75		1.8/2.0	60	SAND - pale pink to light gray, fine to medium, some coarse, well graded.		SW	9,17,30,28	
80			140			SP	10,26,21,19	

TITLE: Naval Air Station Whiting Field		LOG of WELL: WHF-32-4	BORING NO.
CLIENT: SOUTHNAVFACENGCOM		PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 6/29/93	COMPLTD: 6/29/93
METHOD: HOLLOW STEM AUGER	CASE SIZE: 2"	SCREEN INT.: 95-110 FT	PROTECTION LEVEL: D, Mod. D
TOC ELEV.: 172.07 FT.	MONITOR INST.: FID & OVA	TOT DPTH: 112FT.	DPTH TO ∇: 99.98 FT.
LOGGED BY: G. Kanchibhatla	WELL DEVELOPMENT DATE:		SITE: 32

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
Continued from PAGE 2								
		1.8/2.0		SAND - light pinkish gray, very fine to fine, some medium, damp.		SP		
85		1.8/2.0	100	SAND - reddish brown to pale pink, very fine to some medium, poorly graded, damp, 1" clay lense at center of spoon.		SP	17,25,21,23	
90		1.8/2.0	410	SAA, some medium & coarse.		SP	15,36,28,30	
95		1.5/2.0	400	SAA - 1" clayey sand lense at center of spoon.		SP	6,17,15,19	
100		1.8/2.0	>1000	SAND (16") - fine to medium, some silt. SILTY SAND (4") - very light gray, wet, strong hydrocarbon odor.		SP/SC	11,15,15,15	
105		1.8/2.0	>1000	SAND - light gray, fine to medium, some silt, wet.		SP	N/A	
110								
115								
120								

TITLE: Naval Air Station Whiting Field				LOG of WELL: WHF-32-5		BORING NO.	
CLIENT: SOUTHNAVFACENGCOM						PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.				DATE STARTED: 5/23/93		COMPLTD: 5/24/93	
METHOD: HOLLOW STEM AUGER		CASE SIZE: 2"		SCREEN INT.: 94-109 FT		PROTECTION LEVEL: D, Mod. D	
TOC ELEV.: 0 FT.		MONITOR INST.: FID & OVA		TOT DPTH: 109FT.		DPTH TO ▽ 98.60 FT.	
LOGGED BY: D. Wong		WELL DEVELOPMENT DATE:				SITE: 32	

DEPTH F.T.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
<div style="text-align: center;">5</div> <div style="text-align: center;">10</div> <div style="text-align: center;">15</div> <div style="text-align: center;">20</div> <div style="text-align: center;">25</div> <div style="text-align: center;">30</div> <div style="text-align: center;">35</div> <div style="text-align: center;">40</div>					<p>SEE SOIL BORING WHF-32-SB-7 FOR ADDITIONAL LITHOLOGICAL DESCRIPTIONS.</p>				
				0	<p>SILTY CLAY - very pale orange, dark yellow orange streaking. SAND - greyish pink, fine to medium grained, moderate red orange streaking.</p>		CL	10,13,21,18	
		16/24							
				0			SP	10,14,16,21	

TITLE: Naval Air Station Whiting Field		LOG of WELL: WHF-32-5	BORING NO.
CLIENT: SOUTHNAVFACENGCOM		PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 5/23/93	COMPLTD: 5/24/93
METHOD: HOLLOW STEM AUGER	CASE SIZE: 2"	SCREEN INT.: 94-109 FT	PROTECTION LEVEL: D, Mod. D
TOC ELEV.: 0 FT.	MONITOR INST.: FID & OVA	TOT DPTH: 109FT.	DPTH TO ∇ 98.60 FT.
LOGGED BY: D. Wong	WELL DEVELOPMENT DATE:		SITE: 32

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
Continued from PAGE 1								
		12/24		SAND - very light grey, fine to medium grained, trace coarse, trace black grains.		SP		
45								
50		12/24	0	Same as above.		SP	10,16,25,32	
55		14/24	0	Same as above.		SP	8,22,24,25	
60		12/24	10	Same as above.		SP	13,17,27,30	
65		18/24	20	SAND - off-white to very light grey, very fine grained, trace to no silt, firmly packed (dense), moiste.		SP	10,12,24,25	
70		18/24	300	Same as above.		SP	10,12,15,17	
75		12/24	70	Same as above.		SP	11,22,31,31	
80			80			SP	12,27,29,33	

TITLE: Naval Air Station Whiting Field		LOG of WELL: WHF-32-5	BORING NO.
CLIENT: SOUTHNAVFACENGCOM		PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 5/23/93	COMPLTD: 5/24/93
METHOD: HOLLOW STEM AUGER	CASE SIZE: 2"	SCREEN INT.: 94-109 FT	PROTECTION LEVEL: D, Mod. D
TOC ELEV.: 0 FT.	MONITOR INST.: FID & OVA	TOT DPTH: 109FT.	DPTH TO ∇: 98.60 FT.
LOGGED BY: D. Wong	WELL DEVELOPMENT DATE:		SITE: 32

DEPTH FT.	LABORATORY SAMPLE ID.	RECOVERY HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
Continued from PAGE 2							
	18/24		SAND - pale orange, fine grained, trace off-white sand.		SP		
85	15/24	25	Same as above, bottom 4" orange pink.		SP	15,40,50,-	
90	10/24	70	SILTY SAND - reddish brown, fine grained, firmly packed, moiste.		SM	13,18,16,22	
95	12/24	18	CLAYEY SAND - brownish red, fine grained, some grey clay mottling, some silt, low to medium plasticity, moiste.		SC	8,8,8,15	
100	21/24	100	SAND - off-white, fine grained, trace pink silt; 2" lense clayey sand at 101', plastic, soft.		SP	8,12,16,19	
105	24/24	150	Same as above, saturated; bottom 4" light yellow brown, trace silt.		SP	6,5,11,12	
110							
115							
120							

TITLE: Naval Air Station Whiting Field		LOG of WELL: WHF-33-1	BORING NO.
CLIENT: SOUTHNAVFACENGCOM			PROJECT NO: RI PHASE IIA
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 6/14/93	COMPLTD: 6/15/93
METHOD: HOLLOW STEM AUGER	CASE SIZE: 2"	SCREEN INT.: 112-127 FT.	PROTECTION LEVEL: B.D
TOC ELEV.: 180.78 FT.	MONITOR INST.: OVA	TOT DPTH: 129FT.	DPTH TO ∇ 118.43 FT.
LOGGED BY: D. WONG	WELL DEVELOPMENT DATE:		SITE: 33

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
5					SEE WHF-33-2 FOR LITHOLOGICAL DESCRIPTIONS.				
10									
15									
20									
25									
30									
35									
40									
45									






TITLE: Naval Air Station Whiting Field		LOG of WELL: WHF-33-1	BORING NO.
CLIENT: SOUTHNAVFACENGCOM		PROJECT NO: R1 PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 6/14/93	COMPLTD: 6/15/93
METHOD: HOLLOW STEM AUGER	CASE SIZE: 2"	SCREEN INT.: 112-127 FT.	PROTECTION LEVEL: B.D
TOC ELEV.: 180.78 FT.	MONITOR INST.: OVA	TOT DPTH: 129FT.	DPTH TO ∇ 118.43 FT.
LOGGED BY: D. WONG	WELL DEVELOPMENT DATE:		SITE: 33

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
Continued from PAGE 1									
50									
55									
60									
65									
70									
75									
80			2.0/2.0	9	SILTY CLAY (1') - light gray, mottled brownish red, soft, plastic. SAND (1') - yellow to reddish brown, fine, some silt, dry.		CL/SP	N/A	
85									
90				10			SP	N/A	

TITLE: Naval Air Station Whiting Field		LOG of WELL: WHF-33-1	BORING NO.
CLIENT: SOUTHNAVFACENGCOM			PROJECT NO: RI PHASE IIA
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 6/14/93	COMPLTD: 6/15/93
METHOD: HOLLOW STEM AUGER	CASE SIZE: 2"	SCREEN INT.: 112-127 FT.	PROTECTION LEVEL: B,D
TOC ELEV.: 180.78 FT.	MONITOR INST.: OVA	TOT DPTH: 129FT.	DPTH TO ∇ 118.43 FT.
LOGGED BY: D. WONG	WELL DEVELOPMENT DATE:		SITE: 33

DEPTH F.T.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
Continued from PAGE 2									
			1.0/2.0		SAND - light yellow, fine, banded yellow, pink, and brown, some silt.		SP		
95									
100			1.1/2.0	2	SAND - banded orange, yellow, and off-white, fine, trace silt, dry.		SP	N/A	
105			2.0/2.0	0.5	SAND - pink to brownish yellow, fine, trace silt, moderately dense.		SP	N/A	
110			2.0/2.0	24	SANDY CLAY - mottled brown, yellow, purple, and light gray, some silt, moderately stiff, plastic.		CL	N/A	
115			2.0/2.0	65	SILTY SAND (I') - mottled brown, yellow, purple and light gray, soft, plastic.		SM	N/A	
					SAND - brownish yellow, fine, moderately dense.		SP		
120			2.0/2.0	3	SILTY SAND (I') - SAA.		SM	N/A	
					SAND (I') - off-white to light pink, some silt, saturated.		SP		
125									
130									
135									

TITLE: Naval Air Station Whiting Field				LOG of WELL: WHF-33-2		BORING NO.	
CLIENT: SOUTHNAVFACENGCOM						PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.				DATE STARTED: 6/23/93		COMPLTD: 6/25/93	
METHOD: HOLLOW STEM AUGER		CASE SIZE: 2"		SCREEN INT.: 113-128 FT.		PROTECTION LEVEL: D	
TOC ELEV.: 181.71 FT.		MONITOR INST.: OVA		TOT DPTH: 130FT.		DPTH TO ▽: 119.39 FT.	
LOGGED BY: G. Kanchibhatla		WELL DEVELOPMENT DATE:				SITE: 33	

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
5								
10		2.0/2.0	0	SILTY SAND - reddish brown, fine, poorly graded, slightly moist.		SM	3,4,5,4	
15								
20		2.0/2.0	0	SAA		SM	3,3,5,4	
25								
30		2.0/2.0	0	SILTY SAND (10") - SAA. SAND (14") - white, very fine to fine, 4" lense of silty sand, beige to light orange.	 	SM SP	3,8,9,22	
35								
40		1.5/2.0	0	SAND - white, very fine to fine, poorly graded.		SP	7,13,17,16	
45								





TITLE: Naval Air Station Whiting Field		LOG of WELL: WHF-33-2	BORING NO.
CLIENT: SOUTHNAVFACENGCOM		PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 6/23/93	COMPLTD: 6/25/93
METHOD: HOLLOW STEM AUGER	CASE SIZE: 2"	SCREEN INT.: 113-128 FT.	PROTECTION LEVEL: D
TOC ELEV.: 181.71 FT.	MONITOR INST.: OVA	TOT DPTH: 130FT.	DPTH TO ∇: 119.39 FT.
LOGGED BY: G. Kanchibhatla	WELL DEVELOPMENT DATE:		SITE: 33

DEPTH F.T.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS Continued from PAGE 1	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
50		1.5/2.0	0	SAND - white to pale pink, fine, poorly graded.		SP	11,18,6,20	
55								
60		1.5/2.0	0	SAND - SAA.		SP	5,9,13,15	
65								
70		1.5/2.0	0	CLAY (8") - fat. SAND - light gray to white, very fine to fine, some silt, clay lenses, gray to light gray, fat, 2" thick.		CH SP	5,16,20,20	
75								
80		1.5/2.0	0	CLAY (8") - fat, soft, plastic, damp. SAND - light gray to white, fine, dry.		CH SP	5,21,38,35	
85								
90			0			SP	10,24,27,?	

TITLE: Naval Air Station Whiting Field		LOG of WELL: WHF-33-2	BORING NO.
CLIENT: SOUTHNAVFACENGCOM			PROJECT NO: RI PHASE IIA
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 6/23/93	COMPLTD: 6/25/93
METHOD: HOLLOW STEM AUGER	CASE SIZE: 2"	SCREEN INT.: 113-128 FT.	PROTECTION LEVEL: D
TOC ELEV.: 181.71 FT.	MONITOR INST.: OVA	TOT DPTH: 130FT.	DPTH TO ▽: 119.39 FT.
LOGGED BY: G. Kanchibhatla	WELL DEVELOPMENT DATE:		SITE: 33

DEPTH F.T.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
Continued from PAGE 2								
		1.5/2.0		SAND - light gray to pale purple, fine, dry.		SP		
95								
100		1.75/2.0	0	SAA		SP	11,23,24,34	
105								
110		1.0/2.0	0	SAND - light gray pale purple, fine to medium, poorly graded, some silt, moist.		SP	40,50,ref	
115		1.75/2.0	0	CLAY (14") - gray to purple mottling, fat, medium stiff, moderately plastic. CLAYEY SILTY SAND (4") - purple to gray mottling, fine, wet.		CH	6,7,22,35	
120		1.5/2.0	0	SAND - gray to light gray, very fine, trace mica, wet.		SP	0,0,24,30	
125		1.0/2.0	0	SAA, 2" clay lense near bottom of spoon.		SP	0,0,0,0	
130								
135								

TITLE: Naval Air Station Whiting Field		LOG of WELL: WHF-33-3	BORING NO.
CLIENT: SOUTHNAVFACENGCOM		PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 6/22/93	COMPLTD: 6/23/93
METHOD: HOLLOW STEM AUGER	CASE SIZE: 2"	SCREEN INT.: 113-128 FT.	PROTECTION LEVEL: D
TOC ELEV.: 182.01 FT.	MONITOR INST.: OVA	TOT DPTH: 130FT.	DPTH TO ∇ 119.84 FT.
LOGGED BY: G. Kanchibhatla	WELL DEVELOPMENT DATE:		SITE: 33

DEPTH F.T.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
5									
10			2.0/2.0	0	SILTY SAND - reddish brown, fine, poorly graded.		SM	3,2,3,4	
15									
20			2.0/2.0	0	SAA		SM	6,6,5,4	
25									
30			1.75/2.0	0	SAND - reddish brown to white, very fine to fine, poorly graded.		SP	4,5,10,10	
35									
40			1.0/2.0	0	SAND - white, very fine to fine, poorly graded.		SP	3,10,12,20	
45									

TITLE: Naval Air Station Whiting Field		LOG of WELL: WHF-33-3		BORING NO.	
CLIENT: SOUTHNAVFACENGCOM				PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.			DATE STARTED: 6/22/93		COMPLTD: 6/23/93
METHOD: HOLLOW STEM AUGER		CASE SIZE: 2"		SCREEN INT.: 113-128 FT.	
TOC ELEV.: 182.01 FT.		MONITOR INST.: OVA		TOT DPTH: 130FT.	
LOGGED BY: G. Kanchibhatla		WELL DEVELOPMENT DATE:			PROTECTION LEVEL: D
					DPTH TO ∇: 119.84 FT.
					SITE: 33

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS Continued from PAGE 1	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
50			1.5/2.0	0	SAND - light yellow to pink, fine, poorly graded.		SP	6,8,8,11	
55									
60			1.5/2.0	0	SAND - light yellow to pale pink, fine to medium, bottom 2" sandy silt.		SP	12,10,16,26	
65									
70			1.5/2.0	0	SAND - light gray to white, very fine to fine, some silt, clay lenses, gray to light gray, fat, 2" thick.		SP	4,9,13,15	
75			1.5/2.0	0	SAND (4") - light gray to white, fine to medium. SAND (4") - yellowish orange, fine to medium. SAND (8") - reddish brown, fine to medium, some coarse, trace gravel.		SP	13,17,29,35	
80			1.5/2.0	0	SAND - light gray to white, fine to medium.		SP	8,15,32,30	
85									
90				0			SP	12,25,35,40	

TITLE: Naval Air Station Whiting Field		LOG of WELL: WHF-33-3		BORING NO.	
CLIENT: SOUTHNAVFACENGCOM				PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.			DATE STARTED: 6/22/93		COMPLTD: 6/23/93
METHOD: HOLLOW STEM AUGER		CASE SIZE: 2"		SCREEN INT.: 113-128 FT.	
TOC ELEV.: 182.01 FT.		MONITOR INST.: OVA		PROTECTION LEVEL: D	
LOGGED BY: G. Kanchibhatla		TOT DPTH: 130FT.		DPH TO ∇ 119.84 FT.	
WELL DEVELOPMENT DATE:			SITE: 33		

DEPTH F.T.	LABORATORY SAMPLE ID.	RECOVERY HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
Continued from PAGE 2							
	1.2/2.0		SAND - very fine to fine, pale purple to light tan striations.		SP		
95							
100	1.5/2.0	0	SAA		SP	12,30,42,42	
105							
110	2.0/2.0	0	SILTY SAND - light yellow, moist.		SM	40,42,40,45	
115	1.0/2.0	0	SAND - purple and yellow striations, fine to medium, 2" lense of clay, at bottom, wet.		SP	22,35,24,35	
120	2.0/2.0	0	SAND - SAA, 2" lense of clay at top of spoon.		SP	15,16,23,40	
125	1.5/2.0	0	SAND - light gray to white, fine to medium, some silt, wet.		SP	N/A	
130							
135							

TITLE: Naval Air Station Whiting Field				LOG of WELL: WHF-33-4		BORING NO.	
CLIENT: SOUTHNAVFACENGCOM						PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.				DATE STARTED: 6/15/93		COMPLTD: 6/16/93	
METHOD: HOLLOW STEM AUGER		CASE SIZE: 2"		SCREEN INT.: 113-128 FT.		PROTECTION LEVEL: D	
TOC ELEV.: 180.56 FT.		MONITOR INST.: OVA		TOT DPTH: 129FT.		DPTH TO ∇: 118.42 FT.	
LOGGED BY: D. WONG		WELL DEVELOPMENT DATE:				SITE: 33	

DEPTH F.T.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
5								
10		2.0/2.0	0	SANDY SILT - brownish red, fine, moderately stiff, very low plasticity, dry.	/ / /	ML	N/A	
15								
20		2.0/2.0	0	SANDY SILT - SAA.	/ / /	ML	N/A	
25								
30		1.6/2.0	0	SANDY SILT - light tan, very fine, firm, dry.	/ / /	ML	N/A	
35								
40		1.7/2.0	0	SAND - light tan to light yellow, fine, interbedded with light pink, firm, dry, 2" lense of clayey sand, light pink, stiff, moderate plasticity, dry.	. . .	SP/SC	N/A	
45								

TITLE: Naval Air Station Whiting Field		LOG of WELL: WHF-33-4		BORING NO.	
CLIENT: SOUTHNAVFACENGCOM				PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.			DATE STARTED: 6/15/93		COMPLTD: 6/16/93
METHOD: HOLLOW STEM AUGER		CASE SIZE: 2"		SCREEN INT.: 113-128 FT.	
TOC ELEV.: 180.56 FT.		MONITOR INST.: OVA		TOT DPTH: 129FT.	
LOGGED BY: D. WONG		WELL DEVELOPMENT DATE:		PROTECTION LEVEL: D	
				DEPTH TO ∇ 118.42 FT.	
				SITE: 33	

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS Continued from PAGE 1	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
50		1.6/2.0	0	SANDY SILT - light tan to light yellow, very fine, some sand, firm, dry.		ML	N/A	
55								
60		1.8/2.0	0	SANDY SILT - SAA, off-white, trace clay.		ML	N/A	
65								
70		2.0/2.0	0	SILTY CLAY (1') - light gray, mottled brown, purple and light orange, plastic, moderately stiff. FAT CLAY (1') - SAA.		OH/CL	N/A	
		1.8/2.0	N/A	FAT CLAY (1.5') - SAA. SILTY CLAY (0.3') - SAA.			N/A	
75								
80		1.7/2.0	0	SAND - light brown, fine, some silt, dry. CLAY - light brown, plastic soft. SAND - off-white, fine, trace silt, stiff, dry.		SP/CL/SP	N/A	
85		1.4/2.0	1	SAND - light yellow, fine, interbedded off-white and light pink, stiff, dry.		SP	N/A	
90			0.8			SP	N/A	

TITLE: Naval Air Station Whiting Field		LOG of WELL: WHF-33-4		BORING NO.	
CLIENT: SOUTHNAVFACENGCOM				PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.			DATE STARTED: 6/15/93		COMPLTD: 6/16/93
METHOD: HOLLOW STEM AUGER		CASE SIZE: 2"		SCREEN INT.: 113-128 FT.	
TOC ELEV.: 180.56 FT.		MONITOR INST.: OVA		PROTECTION LEVEL: D	
LOGGED BY: D. WONG		TOT DPTH: 129 FT.		DPH TO ∇: 118.42 FT.	
WELL DEVELOPMENT DATE:			SITE: 33		

DEPTH FT.	LABORATORY SAMPLE ID.	RECOVERY HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
Continued from PAGE 2							
		0.8/2.0	SAND - light orange, to light yellow, fine, trace silt, stiff, dry.		SP		
95		1.2/2.0	SAND - brownish yellow to brownish orange, fine, trace silt, stiff, dry.			N/A	
100		1.4/2.0	SAND - brownish-red, fine, stiff, dry.		SP	N/A	
105		2.0/2.0	CLAYEY SAND - mottled brownish red, orange yellow, and light gray, fine, some silt, soft, plastic.		SC	N/A	
110		1.0/2.0	SAND - off-white, fine to coarse, stiff, sub-rounded, dry.		SP	N/A	
115		1.7/2.0	SAND - off-white, fine, stiff, dry.		SP	N/A	
120		2.0/2.0	SAND - SAA, saturated.		SP	N/A	
125		N/A/2.0	SAND - SAA, trace clay.		SP	N/A	
130							
135							

TITLE: Naval Air Station Whiting Field		LOG of WELL: WHF-33-5	BORING NO.
CLIENT: SOUTHNAVFACENGCOM		PROJECT NO: RI PHASE IIA	
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 5/21/93	COMPLTD: 5/21/93
METHOD: HOLLOW STEM AUGER	CASE SIZE: 2"	SCREEN INT.: 110-125 FT.	PROTECTION LEVEL: D
TOC ELEV.: 178.7 FT.	MONITOR INST.: FID	TOT DPTH: 125FT.	DPTH TO ∇ 114.59 FT.
LOGGED BY: G. Kanchibhatla	WELL DEVELOPMENT DATE:		SITE: 33

DEPTH F.T.	LABORATORY SAMPLE ID.	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
5				SEE WHF-33-2 FOR LITHOLOGIC DATA.				
6								
7								
8								
9								
10								
11								
12								
13								
14								
15								
16								
17								
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APPENDIX D

RI PHASE IIA PCPT LITHOLOGIC DESCRIPTIONS





















TITLE: Naval Air Station Whiting Field		LOG of WELL: WHF-33-5	BORING NO.
CLIENT: SOUTHNAVFACENGCOM			PROJECT NO: RI PHASE IIA
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 5/21/93	COMPLTD: 5/21/93
METHOD: HOLLOW STEM AUGER	CASE SIZE: 2"	SCREEN INT.: 110-125 FT.	PROTECTION LEVEL: D
TOC ELEV.: 178.7 FT.	MONITOR INST.: FID	TOT DPTH: 125 FT.	DPTH TO ∇ 114.59 FT.
LOGGED BY: G. Kanchibhatla	WELL DEVELOPMENT DATE:		SITE: 33

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
Continued from PAGE 1									
70									
75									
80									
85									
90									
95									
100									
105									
110		12/24	0		CLAY - grey, plastic, moist.		CH	13,12,15,16	
115		12/24	0		SAND - white to purple, fine to medium grained, slightly moist.				
120		12/24	0		SILTY SAND - white, fine to medium grained, moisture to wet.		SP	18,22,28,25	
125					CLAY - grey, plastic, moist.				
					SAND - white, fine, saturated, loose.		SP		
					Same as above.				
130									

TITLE: NAVAL AIR STATION WHITING FIELD		LOG of WELL: N/A		BORING NO. WHF-2A-CPT-01	
CLIENT: SOUTHNAVFACENGCOM				PROJECT NO: RI PHASE IIA	
CONTRACTOR: Williams Earth Science Inc. (WESI)			DATE STARTED: 10/12/92		COMPLTD: 10/17/92
METHOD: Cone Penetrometer		CASE SIZE: N/A		SCREEN INT.: N/A	
TOC ELEV.: N/A FT.		MONITOR INST.: OVA		TOT DPTH: 170FT.	
LOGGED BY: WESI		WELL DEVELOPMENT DATE: N/A		SITE: WHITING FIELD	

DEPTH F.T.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
Continued from PAGE 2								
		0.8/1.5	0	SAND: Grey, coarse to fine, little gravel, grading to fine sand at 0.2.	• • •	SW	32,34,28	
125		0.1/1.5	0	SAND: Light grey, fine to medium.		SP	39,50/6",--	
130		0.3/1.5	0	Same as above, trace coarse.		SP	49,50/6",--	
135								
140								
145								
150								
155								
160								
165								
170	170'							
175								
180								

TITLE: NAVAL AIR STATION WHITING FIELD		LOG of WELL: N/A		BORING NO. WHF-2A-CPT-02	
CLIENT: SOUTHNAVFACENGCOM				PROJECT NO: RI PHASE IIA	
CONTRACTOR: Williams Earth Science Inc. (WESI)			DATE STARTED: 10/12/92		COMPLTD: 10/19/92
METHOD: Cone Penetrometer		CASE SIZE: N/A		SCREEN INT.: N/A	
PROTECTION LEVEL: D		TOC ELEV.: N/A FT.		MONITOR INST.: OVA	
TOT DPTH: 178FT.		DPTH TO ∇: 112 FT.		LOGGED BY: WESI	
WELL DEVELOPMENT DATE: N/A		SITE: WHITING FIELD			

DEPTH F.T.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
					Silty sand to sandy silt.		SM/ML		
5					Sand to silty sand.		SP/SM		
10					Silty sand to sandy silt.		SM/ML		
					Sandy silt to clayey silt.		ML		
					Sand to silty sand.		SP/SM		
					Sand		SP		
15					Clayey silt to silty clay.		ML/CL		
					Silty sand to sandy silt.		SM/ML		
					Gravelly sand to sand.		SW/SP		
20					Sand		SP		
					Gravelly sand to sand.		SW/SP		
25									
30					Sand		SP		
35									
40					Sand to silty sand.		SP/SM		
45					Sand		SP		
50									
					Gravelly sand to sand.		SW/SP		
55					Sand		SP		
60									

TITLE: NAVAL AIR STATION WHITING FIELD				LOG of WELL: N/A		BORING NO. WHF-2A-CPT-01	
CLIENT: SOUTHNAVFACENGCOM						PROJECT NO: RI PHASE IIA	
CONTRACTOR: Williams Earth Science Inc. (WESI)				DATE STARTED: 10/12/92		COMPLTD: 10/17/92	
METHOD: Cone Penetrometer		CASE SIZE: N/A		SCREEN INT.: N/A		PROTECTION LEVEL: D	
TOC ELEV.: N/A FT.		MONITOR INST.: OVA		TOT DPTH: 170FT.		DPTH TO ▽ 105 FT.	
LOGGED BY: WESI		WELL DEVELOPMENT DATE: N/A				SITE: WHITING FIELD	
DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN
				Sand to silty sand.		SM/SP	
				Sand		SP	
5						SM/SP	
				Sand to silty sand.			
10						SP	
15							
20							
25				Sand			
30							
35							
40				Sand to silty sand.		SM/SP	
						SP	
45							
50				Sand			
55				Gravelly sand to sand.		SW/SP	
				Sand		SP	
						SW/SP	
60				Gravelly sand to sand.			

TITLE: NAVAL AIR STATION WHITING FIELD		LOG of WELL: N/A		BORING NO. WHF-2A-CPT-01
CLIENT: SOUTHNAVFACENGCOM			PROJECT NO: RI PHASE IIA	
CONTRACTOR: Williams Earth Science Inc. (WESI)		DATE STARTED: 10/12/92		COMPLTD: 10/17/92
METHOD: Cone Penetrometer	CASE SIZE: N/A	SCREEN INT.: N/A	PROTECTION LEVEL: D	
TOC ELEV.: N/A FT.	MONITOR INST.: OVA	TOT DPTH: 170FT.	DPTH TO ∇ 105 FT.	
LOGGED BY: WESI		WELL DEVELOPMENT DATE: N/A		SITE: WHITING FIELD

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS Continued from PAGE 1	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
65					Gravelly sand to sand.	• • •	SW/SP		
					Sand	• • •	SP		
70					Gravelly sand to sand.	• • •	SW/SP		
75					Sand	• • •	SP		
80					Gravelly sand to sand.	• • •	SW/SP		
					Sand	• • •	SP		
85					Gravelly sand to sand.	• • •	SW/SP		
					Sand	• • •	SP		
90					Gravelly sand to sand.	• • •	SW/SP		
					Sand	• • •	SP		
95					Sand to silty sand.	• • •	SM/SP		
					Sand	• • •	SP		
100			0.2/1.5	0	SAND: Grey, fine, trace gravel.	• • •	SP	37,50/5",--	
			0.5/1.5	0	SAND: Grey, fine to medium, little coarse sand and gravel.	• • •	SP	33,41,42	
105	105'		0.0/1.5		N/A			31,32,30	
110									
115			0.8/1.5	0	SAND: Grey, fine to medium, little coarse, dark red clayey fine sand lenses.	• • •	SP	17,24,32	
120							SW		

TITLE: NAVAL AIR STATION WHITING FIELD		LOG of WELL: N/A	BORING NO. WHF-2A-CPT-02
CLIENT: SOUTHNAVFACENGCOM			PROJECT NO: RI PHASE IIA
CONTRACTOR: Williams Earth Science Inc. (WESI)		DATE STARTED: 10/12/92	COMPLTD: 10/19/92
METHOD: Cone Penetrometer	CASE SIZE: N/A	SCREEN INT.: N/A	PROTECTION LEVEL: D
TOC ELEV.: N/A FT.	MONITOR INST.: OVA	TOT DPTH: 178FT.	DPTH TO ∇ 112 FT.
LOGGED BY: WESI	WELL DEVELOPMENT DATE: N/A		SITE: WHITING FIELD

DEPTH FT.	LABORATORY SAMPLE ID.	RECOVERY HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
Continued from PAGE 1							
			Sand		SP		
65			Sand to silty sand.		SP/SM		
			Sand		SP		
			Sand to silty sand.		SP/SM		
70			Sand		SP		
			Gravelly sand to sand.		SW/SP		
			Sand		SP		
75			Gravelly sand to sand.		SW/SP		
			Sand		SP		
			Gravelly sand to sand.		SW/SP		
80							
85							
90							
95			Sand		SP		
			Gravelly sand to sand.		SW/SP		
100							
			Sand		SP		
105			Gravelly sand to sand.		SW/SP		
			Sand to silty sand.		SP/SM		
			Gravelly sand to sand.		SW/SP		
110			Sand		SP		
			Gravelly sand to sand.		SW/SP		
115							
120							

TITLE: NAVAL AIR STATION WHITING FIELD		LOG of WELL: N/A		BORING NO. WHF-2A-CPT-02	
CLIENT: SOUTHNAVFACENGCOM				PROJECT NO: R1 PHASE IIA	
CONTRACTOR: Williams Earth Science Inc. (WESI)			DATE STARTED: 10/12/92		COMPLTD: 10/19/92
METHOD: Cone Penetrometer		CASE SIZE: N/A		SCREEN INT.: N/A	
TOC ELEV.: N/A FT.		MONITOR INST.: OVA		TOT DPTH: 178FT.	
LOGGED BY: WESI		WELL DEVELOPMENT DATE: N/A			PROTECTION LEVEL: 0
SITE: WHITING FIELD					

DEPTH FT.	LABORATORY SAMPLE ID.	RECOVERY HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS Continued from PAGE 2	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
125			Gravelly sand to sand.		SW/SP		
130							
135							
140		6/18	SAND: Purple, white and tan, fine to very fine, some clay at 140 ft. bls.		SP	27,35,42	
145							
150		6/18	SAND: Light brown, very fine to medium, some clay and silt.		SP	47,50/4"	
155							
160							
165							
170							
175	175'						
180							

TITLE: NAVAL AIR STATION WHITING FIELD				LOG of WELL: N/A		BORING NO. WHF-2A-CPT-03	
CLIENT: SOUTHNAVFACENGCOM						PROJECT NO: RI PHASE IIA	
CONTRACTOR: Williams Earth Science Inc. (WESI)				DATE STARTED: 10/13/92		COMPLTD: 10/26/92	
METHOD: Cone Penetrometer		CASE SIZE: N/A		SCREEN INT.: N/A		PROTECTION LEVEL: D	
TOC ELEV.: N/A FT.		MONITOR INST.: OVA		TOT DPTH: 183FT.		DPTH TO ∇ III FT.	
LOGGED BY: WESI		WELL DEVELOPMENT DATE: N/A				SITE: WHITING FIELD	
DEPTH FT.	LABORATORY SAMPLE ID.	RECOVERY HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
5			Sandy silt to clayey silt.		ML		
			Silty sand to sandy silt.		SM/ML		
			Sand to silty sand.		SP/SM		
			Silty sand to sandy silt.		SM/ML		
10			Sand to silty sand.		SP/SM		
15							
20			Sand		SP		
25			Gravelly sand to sand.		SW/SP		
			Sand		SP		
			Gravelly sand to sand.		SW/SP		
30			Sand		SP		
			Gravelly sand to sand.		SW/SP		
35			Sand		SP		
			Gravelly sand to sand.		SW/SP		
40							
45			Sand		SP		
50							
55							
60							
65							
					SP/SM		

TITLE: NAVAL AIR STATION WHITING FIELD		LOG of WELL: N/A	BORING NO. WHF-2A-CPT-03
CLIENT: SOUTHNAVFACENGCOM		PROJECT NO: RI PHASE IIA	
CONTRACTOR: Williams Earth Science Inc. (WESI)		DATE STARTED: 10/13/92	COMPLTD: 10/26/92
METHOD: Cone Penetrometer	CASE SIZE: N/A	SCREEN INT.: N/A	PROTECTION LEVEL: D
TOC ELEV.: N/A FT.	MONITOR INST.: OVA	TOT DPTH: 183FT.	DPTH TO ∇ III FT.
LOGGED BY: WESI	WELL DEVELOPMENT DATE: N/A		SITE: WHITING FIELD

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
Continued from PAGE 1									
70					Sand to silty sand.	SP/SM			
					Silty sand to sandy silt.	SM/ML			
					Sand to silty sand.	SP/SM			
					Sand	SP			
75									
80									
85									
90					Gravelly sand to sand.	SW/SP			
95									
100									
105									
110				6/18	SAND: Tan, medium coarse to fine, trace silt, red-orange grains throughout.	SP		28,44,39	
115									
120									
125									
130									


















TITLE: NAVAL AIR STATION WHITING FIELD		LOG of WELL: N/A		BORING NO. WHF-2A-CPT-03	
CLIENT: SOUTHNAVFACENGCOM				PROJECT NO: RI PHASE IIA	
CONTRACTOR: Williams Earth Science Inc. (WESI)			DATE STARTED: 10/13/92		COMPLTD: 10/26/92
METHOD: Cone Penotrometer		CASE SIZE: N/A		SCREEN INT.: N/A	
TOC ELEV.: N/A FT.		MONITOR INST.: OVA		PROTECTION LEVEL: D	
LOGGED BY: WESI		TOT DPTH: 183FT.		DPTH TO ∇ III FT.	
WELL DEVELOPMENT DATE: N/A			SITE: WHITING FIELD		

DEPTH FT.	LABORATORY SAMPLE ID.	RECOVERY HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS Continued from PAGE 2	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
135		6/18	SAND: Light brown to white, fine to very fine, saturated.		SP	33,48,41	
140		5/18	SAND: Light brown to white, fine to very fine, saturated.		SP	43,50,54	
145							
150							
155							
160							
165							
170							
175							
180	180'						
185							
190							
195							

TITLE: NAVAL AIR STATION WHITING FIELD		LOG of WELL: N/A		BORING NO. WHF-2A-CPT-04	
CLIENT: SOUTHNAVFACENGCOM				PROJECT NO: RI PHASE IIA	
CONTRACTOR: Williams Earth Science Inc. (WESI)			DATE STARTED: 10/14/92		COMPLTD: 10/28/92
METHOD: Cone Penetrometer		CASE SIZE: N/A		SCREEN INT.: N/A	
TOC ELEV.: N/A FT.		MONITOR INST.: OVA		TOT DPTH: 180FT.	
LOGGED BY: WESI		WELL DEVELOPMENT DATE: N/A		PROTECTION LEVEL: D	
				DEPTH TO ∇ 125 FT.	
				SITE: WHITING FIELD	

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
					Sand to silty sand.		SP/SM		
					Sand		SP		
					Sand to silty sand.		SP/SM		
5					Undefined				
					Silty sand to sandy silt.		SM/ML		
10					Sand		SP		
15									
20					Sand to silty sand.		SP/SM		
25									
30									
35					Sand		SP		
40									
45					Sand to silty sand.		SP/SM		
					Sand		SP		
50					Sand to silty sand.		SP/SM		
					Sand		SP		
55					Sand to silty sand.		SP/SM		
					Sand		SP		
60									
65									

TITLE: NAVAL AIR STATION WHITING FIELD		LOG of WELL: N/A	BORING NO. WHF-2A-CPT-04
CLIENT: SOUTHNAVFACENGCOM		PROJECT NO: RI PHASE IIA	
CONTRACTOR: Williams Earth Science Inc. (WESI)		DATE STARTED: 10/14/92	COMPLTD: 10/28/92
METHOD: Cone Penetrometer	CASE SIZE: N/A	SCREEN INT.: N/A	PROTECTION LEVEL: D
TOC ELEV.: N/A FT.	MONITOR INST.: OVA	TOT DPTH: 180FT.	DPTH TO ∇ 125 FT.
LOGGED BY: WESI	WELL DEVELOPMENT DATE: N/A		SITE: WHITING FIELD

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
				Continued from PAGE 1				
				Sand		SP		
				Gravelly sand to sand.		SW/SP		
70				Sand		SP		
				Gravelly sand to sand.		SW/SP		
75				Sand		SP		
				Gravelly sand to sand.		SW/SP		
				Sand		SP		
80				Gravelly sand to sand.		SW/SP		
				Sand		SP		
85				Gravelly sand to sand.		SW/SP		
				Sand		SP		
90				Gravelly sand to sand.		SW/SP		
						SP		
95						SW/SP		
100						SW/SP		
105						SW/SP		
110			14/18	SILTY SAND: Yellow to orange red, saturated.		SM	40,40,27	
115								
120								
125								
130								

TITLE: NAVAL AIR STATION WHITING FIELD		LOG of WELL: N/A	BORING NO. WHF-2A-CPT-04
CLIENT: SOUTHNAVFACENGCOM		PROJECT NO: R1 PHASE IIA	
CONTRACTOR: Williams Earth Science Inc. (WESI)		DATE STARTED: 10/14/92	COMPLTD: 10/28/92
METHOD: Cone Penetrometer	CASE SIZE: N/A	SCREEN INT.: N/A	PROTECTION LEVEL: 0
TOC ELEV.: N/A FT.	MONITOR INST.: OVA	TOT DPTH: 180FT.	DPTH TO ∇ 125 FT.
LOGGED BY: WESI	WELL DEVELOPMENT DATE: N/A		SITE: WHITING FIELD

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS Continued from PAGE 2	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
		0/18						
135								
140		6/18		SAND: Tan, very fine to medium, trace medium white quartz, wet.		SP	26,26,50/5"	
145								
150								
155								
160								
165								
170								
175								
180	180'							
185								
190								
195								

TITLE: NAVAL AIR STATION WHITING FIELD		LOG of WELL: N/A		BORING NO. WHF-2A-CPT-05	
CLIENT: SOUTHNAVFACENGCOM				PROJECT NO: RI PHASE IIA	
CONTRACTOR: Williams Earth Science Inc. (WESI)			DATE STARTED: 10/14/92		COMPLTD: 10/30/92
METHOD: Cone Penetrometer		CASE SIZE: N/A		SCREEN INT.: N/A	
TOC ELEV.: N/A FT.		MONITOR INST.: OVA		TOT DPTH: 195FT.	
LOGGED BY: WESI		WELL DEVELOPMENT DATE: N/A			SITE: WHITING FIELD

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
5					Silty sand to sandy silt.		SM/ML		
					Sandy silt to clayey silt.		SM		
					Silty sand to sandy silt.		SM/ML		
					Sand to silty sand.		SP/SM		
10									
15					Silty sand to sandy silt.		SM/ML		
					Sandy silt to clayey silt.		ML		
					Sand to silty sand.		SP/SM		
20					Clay		CL		
					Silty clay to clay.		CL		
25					Sand		SP		
30									
35									
40									
45									
50					Gravelly sand to sand.		SW/SP		
					Sand		SP		
55									
60									
65									

























TITLE: NAVAL AIR STATION WHITING FIELD		LOG of WELL: N/A		BORING NO. WHF-2A-CPT-05	
CLIENT: SOUTHNAVFACENGCOM				PROJECT NO: RI PHASE IIA	
CONTRACTOR: Williams Earth Science Inc. (WESI)			DATE STARTED: 10/14/92		COMPLTD: 10/30/92
METHOD: Cone Penetrometer		CASE SIZE: N/A		SCREEN INT.: N/A	
TOC ELEV.: N/A FT.		MONITOR INST.: OVA		TOT DPTH: 195FT.	
LOGGED BY: WESI		WELL DEVELOPMENT DATE: N/A		DEPTH TO 125 FT.	
				SITE: WHITING FIELD	

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS Continued from PAGE 1	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
70					Sand		SP		
75									
80									
85									
90					Gravelly sand to sand.		SW/SP		
95									
100									
105									
110									
115									
120					SAND: Light brown, fine to very fine, trace silt.		SP	50/3",-,-	
125									
130									


















TITLE: NAVAL AIR STATION WHITING FIELD		LOG of WELL: N/A	BORING NO. WHF-2A-CPT-05
CLIENT: SOUTHNAVFACENGCOM			PROJECT NO: RI PHASE IIA
CONTRACTOR: Williams Earth Science Inc. (WESI)		DATE STARTED: 10/14/92	COMPLTD: 10/30/92
METHOD: Cone Penotrometer	CASE SIZE: N/A	SCREEN INT.: N/A	PROTECTION LEVEL: D
TOC ELEV.: N/A FT.	MONITOR INST.: OVA	TOT DPTH: 195FT.	DPTH TO ∇ 125 FT.
LOGGED BY: WESI	WELL DEVELOPMENT DATE: N/A		SITE: WHITING FIELD

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS Continued from PAGE 2	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
135									
140									
145									
150									
155									
160									
165									
170									
175									
180									
185	185'								
190									
195									

TITLE: NAVAL AIR STATION WHITING FIELD				LOG of WELL: N/A		BORING NO. WHF-2A-CPT-06	
CLIENT: SOUTHNAVFACENGCOM						PROJECT NO: RI PHASE IIA	
CONTRACTOR: Williams Earth Science Inc. (WESI)				DATE STARTED: 10/15/92		COMPLTD: 10/31/92	
METHOD: Cone Penetrometer		CASE SIZE: N/A		SCREEN INT.: N/A		PROTECTION LEVEL: D	
TOC ELEV.: N/A FT.		MONITOR INST.: OVA		TOT DPTH: 175FT.		DPTH TO ∇ 130 FT.	
LOGGED BY: WESI		WELL DEVELOPMENT DATE: N/A				SITE: WHITING FIELD	

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
					Silty sand to sandy silt.		SM/ML		
					Sand to silty sand.		SP/SM		
5					Undefined		ML		
					Sandy silt to clayey silt.		SM/ML		
					Silty sand to sandy silt.		SP/SM		
10					Sand to silty sand.				
					Undefined				
15					Silty sand to sandy silt.		SM/ML		
					Sand to silty sand.		SP/SM		
20					Sand		SP		
					Clay		CL		
					Gravelly sand to sand.		SW/SP		
25					Sand		SP		
					Gravelly sand to sand.		SW/SP		
30					Sandy silt to clayey silt.		ML		
					Silty clay to clay.		CL		
					Clayey silt to silty clay.		ML/CL		
35					Silty clay to clay.		CL		
					Silty sand to sandy silty.		SM/ML		
					Sandy silt to clayey silt.		ML		
40					Clayey silt to silty clay.		ML/CL		
					Sand		SP		
45					Gravelly sand to sand.		SW/SP		
					Sand		SP		
50									
55					Gravelly sand to sand.		SW/SP		
60					Sand		SP		

TITLE: NAVAL AIR STATION WHITING FIELD		LOG of WELL: N/A	BORING NO. WHF-2A-CPT-06
CLIENT: SOUTHNAVFACENGCOM		PROJECT NO: RI PHASE IIA	
CONTRACTOR: Williams Earth Science Inc. (WESI)		DATE STARTED: 10/15/92	COMPLTD: 10/31/92
METHOD: Cone Penetrometer	CASE SIZE: N/A	SCREEN INT.: N/A	PROTECTION LEVEL: D
TOC ELEV.: N/A FT.	MONITOR INST.: OVA	TOT DPTH: 175FT.	DPTH TO ∇ 130 FT.
LOGGED BY: WESI	WELL DEVELOPMENT DATE: N/A		SITE: WHITING FIELD

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS Continued from PAGE 1	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
					Sand		SP		
65					Gravelly sand to sand.		SW/SP		
					Sand		SP		
70					Gravelly sand to sand.		SW/SP		
75									
80					Sand		SP		
					Sand to silty sand.		SP/SM		
85					Sand.		SP		
					Gravelly sand to sand.		SW/SP		
90									
					Sand		SP		
95					Gravelly sand to sand.		SW/SP		
100									
105									
110									
115									
120									









TITLE: NAVAL AIR STATION WHITING FIELD		LOG of WELL: N/A		BORING NO. WHF-2A-CPT-06	
CLIENT: SOUTHNAVFACENGCOM				PROJECT NO: RI PHASE IIA	
CONTRACTOR: Williams Earth Science Inc. (WESI)			DATE STARTED: 10/15/92		COMPLTD: 10/31/92
METHOD: Cone Penetrometer		CASE SIZE: N/A		SCREEN INT.: N/A	
TOC ELEV.: N/A FT.		MONITOR INST.: OVA		TOT DPTH: 175FT.	
LOGGED BY: WESI		WELL DEVELOPMENT DATE: N/A			SITE: WHITING FIELD

DEPTH F.T.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS Continued from PAGE 2	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
125		18/18		CLAY: Grey with red-orange mottling, dry, trace very fine sand.		CL	16,25,33-	
130		3/18		SILTY SAND: Grey, very fine to fine, wet to saturated.		SM	42,50/5",-	
133'								
135								
140								
145								
150								
155								
160								
165								
170								
175	175'							
180								

TITLE: NAVAL AIR STATION WHITING FIELD		LOG of WELL: N/A	BORING NO. WHF-2A-CPT-07
CLIENT: SOUTHNAVFACENGCOM			PROJECT NO: RI PHASE IIA
CONTRACTOR: Williams Earth Science Inc. (WESI)		DATE STARTED: 10/16/92	COMPLTD: 11/01/92
METHOD: Cone Penetrometer	CASE SIZE: N/A	SCREEN INT.: N/A	PROTECTION LEVEL: D
TOC ELEV.: N/A FT.	MONITOR INST.: OVA	TOT DPTH: 185FT.	DPTH TO ∇ 130 FT.
LOGGED BY: WESI	WELL DEVELOPMENT DATE: N/A		SITE: WHITING FIELD

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
					Sand to silty sand.		SP/SM		
					Sand		SP		
							SP/SM		
5					Sand to silty sand.		SM/ML		
					Silty sand to sandy silt.		SP		
					Sand		SP/SM		
10					Sand to silty sand.		CL		
					Silty clay to clay.		SP		
					Clay		ML/CL		
15					Very stiff, fine grained sand.		CL		
					Undefined		ML/CL		
							SP/SM		
20					Clayey silt to silty clay.		SP		
					Clay				
25					Undefined				
					Clayey silt to silty clay.				
					Sand to silty sand.				
30					Sand		SW/SP		
							SP		
					Gravelly sand to sand.		SW/SP		
35					Sand				
					Gravelly sand to sand.		SP/SM		
							ML		
					Sand to silty sand.		SP		
40					Sandy silt to clayey silt.		SW/SP		
					Sand		SP		
45					Gravelly sand to sand.		SW/SP		
					Sand				
					Gravelly sand to sand.				
50					Sand		SP		
					Gravelly sand to sand.		SW/SP		
55					Silty sand to sandy silt.		SM/ML		
					Sany silt to clayey silt.		ML		
					Clayey silt to silty clay.		ML/CL		
60					Sand to silty sand.		SP/SM		
							SP		
65					Sand				

TITLE: NAVAL AIR STATION WHITING FIELD		LOG of WELL: N/A		BORING NO. WHF-2A-CPT-07	
CLIENT: SOUTHNAVFACENGCOM				PROJECT NO: RI PHASE IIA	
CONTRACTOR: Williams Earth Science Inc. (WESI)			DATE STARTED: 10/16/92		COMPLTD: 11/01/92
METHOD: Cone Penetrometer		CASE SIZE: N/A		SCREEN INT.: N/A	
				PROTECTION LEVEL: D	
TOC ELEV.: N/A FT.		MONITOR INST.: OVA		TOT DPTH: 185FT.	
				DPTH TO ∇ 130 FT.	
LOGGED BY: WESI		WELL DEVELOPMENT DATE: N/A			SITE: WHITING FIELD

DEPTH F.T.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS Continued from PAGE 1	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
					Sand		SP		
70					Sand to silty sand.		SP/SM		
					Sand		SP		
					Gravelly sand to sand.		SW/SP		
75					Sand		SP		
					Gravelly sand to sand.		SW/SP		
80					Sand to silty sand.		SP/SM		
					Gravelly sand to sand.		SW/SP		
85					Undefined				
90									
95									
100									
105									
110									
115									
120									
125									
130	130'								

TITLE: NAVAL AIR STATION WHITING FIELD		LOG of WELL: N/A		BORING NO. WHF-2A-CPT-07	
CLIENT: SOUTHNAVFACENGCOM				PROJECT NO: RI PHASE IIA	
CONTRACTOR: Williams Earth Science Inc. (WESI)			DATE STARTED: 10/16/92		COMPLTD: 11/01/92
METHOD: Cone Penetrometer		CASE SIZE: N/A		SCREEN INT.: N/A	
TOC ELEV.: N/A FT.		MONITOR INST.: OVA		TOT DPTH: 185FT.	
LOGGED BY: WESI		WELL DEVELOPMENT DATE: N/A			SITE: WHITING FIELD

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS Continued from PAGE 2	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
135									
140									
145									
150									
155									
160									
165									
170									
175									
180									
185	185'								
190									
195									

APPENDIX E

**RI UNDERGROUND STORAGE TANK (UST) MONITORING
WELL LITHOLOGIC DESCRIPTIONS**

TITLE: NAS Whiting Field				LOG of WELL: WHF-1466-1		BORING NO. SFF-SB-29	
CLIENT: SOUTHNAVFACENGCOM						PROJECT NO: 7518-40	
CONTRACTOR: Groundwater Protection Inc.				DATE STARTED: 1/26/92		COMPLTD: 1/26/92	
METHOD: 4.25" HSA		CASE SIZE: 4 inches		SCREEN INT.: 120-135 FT		PROTECTION LEVEL: D	
TOC ELEV.: 177.79 FT.		MONITOR INST.: OVA		TOT DPTH: 135FT.		DPTH TO ∇ FT.	
LOGGED BY: C. King		WELL DEVELOPMENT DATE:				SITE: 1466, South Fuel Farm	

DEPTH F.T.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
5		1.7/2	0.0	CLAYEY SAND: Red, coarse- to very-coarse grained, some silt.		SC	5,5,7,5	
10		1.0/2	0.0				5,6,5,5	
15		0.8/2	3.0				5,6,8,8	
20		1.7/2	0.0	CLAYEY SAND: Red to light red, medium- to very coarse-grained, some silt.		SC	5,5,7,9	
25		1.5/2	0.0	SAND: Gray, red, and white banded, some clay and silt, medium- to coarse-grained.		SC	7,7,11,12	
30		1.5/2	0.0				7,10,10,10	
35		1.5/2	0.0				9,15,17,17	
40		1.5/2	0.0	SAND: Light gray with some red bands, medium- to coarse-grained.		SW	10,20,22,20	
45		2.0/2	0.0	SAND: Light gray and pink banded, some silt, medium- to coarse- grained.		SW	6,8,8,10	
50		1.3/2	0.0				6,7,7,10	
55			0.0				8,10,10,8	

TITLE: NAS Whiting Field		LOG of WELL: WHF-1466-1	BORING NO. SFF-SB-29
CLIENT: SOUTHNAVFACENGCOM		PROJECT NO: 7518-40	
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 1/26/92	COMPLTD: 1/26/92
METHOD: 4.25" HSA	CASE SIZE: 4 inches	SCREEN INT.: 120-135 FT	PROTECTION LEVEL: D
TOC ELEV.: 177.79 FT.	MONITOR INST.: OVA	TOT DPTH: 135FT.	DPTH TO ∇ FT.
LOGGED BY: C. King	WELL DEVELOPMENT DATE:		SITE: 1466, South Fuel Farm

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS Continued from PAGE 1	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
60		1.0/2	0.0	SAND: Light gray and pink, medium- to coarse-grained, some mica.		SW	Wt.of Rod	
65		1.7/2	0.0	SAND: Same as above with some quartz pebbles.		SW	16,18,18,16	
70		1.7/2	0.0				Wt.of Rod	
75		1.8/2	0.0	SAND: Same as above no quartz pebbles.		SW	16,16,17,16	
80		0.8/2	0.0	SAND: Same as above with some mica.		SW	8,10,12,15	
85		1.0/2	0.0				Wt.of Rod	
90		1.7/2	0.0				20,25,30,32	
95		1.0/2	0.0	SAND: Light gray, brown and yellow banded, medium- to very coarse- grained, some silt, damp.		SW	23,24,23,24	
100		1.0/2	1.0	SAND: Light gray, medium- to coarse-grained, some silt, damp.		SW	17,22,23,22	
105		1.7/2	2.0	SAND: Pink, light gray and brown banded, medium- to coarse-grained, some mica, damp.		SW	Wt. of Rod	
110			1.0				18,20,20,19	

TITLE: NAS Whiting Field		LOG of WELL: WHF-1466-1	BORING NO. SFF-SB-29
CLIENT: SOUTHNAVFACENGCOM			PROJECT NO: 7518-40
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 1/26/92	COMPLTD: 1/26/92
METHOD: 4.25" HSA	CASE SIZE: 4 inches	SCREEN INT.: 120-135 FT	PROTECTION LEVEL: D
TOC ELEV.: 177.79 FT.	MONITOR INST.: OVA	TOT DPTH: 135FT.	DPTH TO ▽ FT.
LOGGED BY: C. King	WELL DEVELOPMENT DATE:		SITE: 1466, South Fuel Farm

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
Continued from PAGE 2								
115		1.5/2	0.0	SAND: Gray, light brown, reddish brown, medium-grained, some mica, damp.		SP	28,30,38,40	
120		1.8/2	0.0	SAND: Light brown, medium- to coarse-grained, some mica, damp.		SW	30,38,40,43	
125		1.9/2	1.0	SAND: Same as above, wet.		SW	30,35	
130								
135								
140								
145								
150								
155								
160								
165								

TITLE: NAS Whiting Field				LOG of WELL: WHF-1466-1D		BORING NO. SFF-SB-49	
CLIENT: SOUTHNAVFACENGCOM						PROJECT NO: 7518-40	
CONTRACTOR: Groundwater Protection Inc.				DATE STARTED: 5/12/92		COMPLTD: 5/12/92	
METHOD: Mud Rotary		CASE SIZE: 4&8 inches		SCREEN INT.: 153-158 FT		PROTECTION LEVEL: C.D	
TOC ELEV.: 191.24 FT.		MONITOR INST.: OVA		TOT DPTH: 163FT.		DPTH TO ▽ FT.	
LOGGED BY: N. Pagano		WELL DEVELOPMENT DATE:				SITE: 1466, South Fuel Farm	

DEPTH FT.	LABORATORY SAMPLE ID.	RECOVERY HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
						POSTHOLE	
5		1.3/2	0.0	CLAY: Brown, stiff.	CL	6,7,7,8	
10		2.0/2	0.0	CLAY: Brown to red to buff, stiff.	CL	8,10,12,12	
15		1.5/2	0.0	SAND: Brown to pink to yellow to white, fine- to medium-grained.	SP	8,12,13,14	
20		1.3/2	0.0	SAND: Pale yellow to buff to white to tan, very fine- to medium- grained.	SW	12,15,19,22	
25		1.2/2	0.0	SAND: White to buff, very fine- to medium-grained.	SW	6,5,8,12	
30		1.5/2	0.0	SANDY CLAY: Brown to yellow to buff to white, fine- to medium-grained	SC	18,24,26,30	
35		1.6/2	0.0	SANDY CLAY: Buff to tan to yellow to rose to white, very fine- to medium-grained.	SC	16,18,24,29	
40		1.6/2	0.0	SAND: Tan to buff to rose, very fine- to medium-grained, silty.	SW	20,18,15,15	
45		1.6/2	0.0			15,16,16,17	
50		1.7/2	0.0			18,26,29,32	
55					SC		

TITLE: NAS Whiting Field		LOG of WELL: WHF-1466-ID	BORING NO. SFF-SB-49
CLIENT: SOUTHNAVFACENGCOM		PROJECT NO: 7518-40	
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 5/12/92	COMPLTD: 5/12/92
METHOD: Mud Rotary	CASE SIZE: 488 inches	SCREEN INT.: 153-158 FT	PROTECTION LEVEL: C,D
TOC ELEV.: 191.24 FT.	MONITOR INST.: OVA	TOT DPTH: 163FT.	DPTH TO ∇ FT.
LOGGED BY: N. Pagano	WELL DEVELOPMENT DATE:		SITE: 1466, South Fuel Farm

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
Continued from PAGE 1								
		1.8/2	0.0	SANDY CLAY: Brown to yellow to rose to buff, fine- to medium-grained.		SC	20,22,28,30	
60		1.7/2	0.0	SAND: Peach to rose to buff to white, fine- to medium-grained, silty.		SP	18,22,25,25	
65		1.7/2	0.0				15,13,15,16	
70		1.8/2	1.0	SAND: Buff to white to rose, fine- to coarse-grained.		SW	12,15,18,20	
75		1.8/2	4.0	SAND: Buff to white to rose, fine- to coarse-grained, some gravel.		SW	18,20,22,27	
80		1.6/2	2.0				32,32,32,32	
85		1.6/2	11.0	SAND: Buff to white, fine- to medium-grained, silty.		SP	29,32,33,33	
90		1.6/2	3.0	SAND: Rose to pink to buff to white, fine- to medium-grained, some gravel.		SW	23,25,30,30	
95		1.0/2	5.0				Wt. of Rod	
100		1.0/2	20.0				35,37	
105		1.0/2	100.0	SAND: Orange to buff to white, fine- to medium-grained, damp.		SP	50,REF	
110						SP		

TITLE: NAS Whiting Field		LOG of WELL: WHF-1466-ID	BORING NO. SFF-SB-49
CLIENT: SOUTHNAVFACENGCOM		PROJECT NO: 7518-40	
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 5/12/92	COMPLTD: 5/12/92
METHOD: Mud Rotary	CASE SIZE: 468 inches	SCREEN INT.: 153-158 FT	PROTECTION LEVEL: C,D
TOC ELEV.: 191.24 FT.	MONITOR INST.: OVA	TOT DPTH: 163FT.	DPTH TO ▽ FT.
LOGGED BY: N. Pagano	WELL DEVELOPMENT DATE:		SITE: 1466, South Fuel Farm

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS Continued from PAGE 2	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
115		1.0/2	35.0	SAND: Buff to white to rose, fine- to medium-grained.		SP	39,40,42,42	
120		1.0/2	110.0				49,REF	
125		1.0/2	25.0	SAND: Rose to white to buff, fine- to coarse-grained.		SW	28,42,39,46	
130		1.3/2	N/A	SAND: White, fine- to coarse-grained, saturated, odor detected.		SW	33,42,50,REF	
135		2.0/2	N/A	CLAY: Stiff, fine- to medium-grained.		CL	Wt. of Rod	
140		2.0/2	0.0	SANDY CLAY: Gold to brown to buff to white, fine- to medium-grained.		SC	Wt. of Rod	
145		2.0/2	0.0	SANDY CLAY: Buff to rose to gold, fine- to medium-grained.		SC	23,20	
150		2.0/2	0.0	CLAY: Yellow to brown to red to tan, stiff, fine- to medium-grained.		CH	Wt. of Rod	
155		2.0/2	2.0	CLAY: Fine- to medium-grained.		CH	50	
160		2.0/2		SAND: Grayish orange to dark yellow-orange, fine-grained, clay lens, well-sorted.		SP		
165								

TITLE: NAS Whiting Field		LOG of WELL: WHF-1466-2	BORING NO. SFF-SB-52
CLIENT: SOUTHNAVFACENGCOM			PROJECT NO: 7518-40
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 3/14/92	COMPLTD: 3/14/92
METHOD: 4.25" HSA	CASE SIZE: 4 inches	SCREEN INT.: 105-120 FT	PROTECTION LEVEL: 0
TOC ELEV.: 180.72 FT.	MONITOR INST.: OVA	TOT DPTH: 120FT.	DPTH TO ∇ 109 FT.
LOGGED BY: N. Pagano	WELL DEVELOPMENT DATE:		SITE: 1466, South Fuel Farm

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
								POSTHOLE	
5			1.0/2	0.0	CLAYEY SAND: Brick red, fine- to medium-grained.		SC	1,1,2,4	
10			1.5/2	0.0				7,8,10,12	
15			1.8/2	0.0	SAND: Red to tan, fine- to medium-grained, trace clay.		SC	9,9,12,12	
20			2.0/2	0.0	CLAYEY SAND: Red to buff, medium-grained. SAND: Red to buff, fine- to medium-grained.		SC	6,8,10,10	
25			1.8/2	0.0	SAND: White, fine- to medium-grained, well-graded.		SW	14,14,14,14	
30			2.0/2	0.0				8,14,20,24	
35			2.0/2	0.0				12,16,16,18	
40			2.0/2	0.0	SAND: White, fine-grained, well-sorted.		SP	18,22,24,24	
45			2.0/2	0.0	SILTY CLAY: Tan to rose to brown.		CL	40,REF	
50			1.8/2	0.0	SAND: Tan to rose to brown, very fine-grained, well-sorted.		SP	30,35,35,37	
55									

TITLE: NAS Whiting Field		LOG of WELL: WHF-1466-2	BORING NO. SFF-SB-52
CLIENT: SOUTHNAVFACENGCOM		PROJECT NO: 7518-40	
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 3/14/92	COMPLTD: 3/14/92
METHOD: 4.25" HSA	CASE SIZE: 4 inches	SCREEN INT.: 105-120 FT	PROTECTION LEVEL: D
TOC ELEV.: 180.72 FT.	MONITOR INST.: OVA	TOT DPTH: 120FT.	DPTH TO ∇ 109 FT.
LOGGED BY: N. Pagano	WELL DEVELOPMENT DATE:		SITE: 1466, South Fuel Farm

DEPTH F.T.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
Continued from PAGE 1								
		1.8/2	1.0	SAND: Tan to red, fine-grained, well-sorted.			12,12,12,14	
60		1.8/2	1.0				26,30,30,30	
65		1.6/2	2.0				10,10,12,16	
70		1.6/2	0.0	SAND: White, medium-grained, well-sorted.		SP	18,22,24,26	
75		1.5/2	0.0				12,15,15,15	
80		1.5/2	2.0	SAND: White to pink, fine- to medium-grained.		SP	20,15,15,13	
85		1.5/2	0.0	SAND: Gold, medium-grained, well-sorted.		SP	40,50,REF	
				SAND: Buff to red to gold, fine- to coarse-grained, well-graded.				
90		1.5/2	0.0	SAND: Buff, fine- to medium-grained.		SP	35,45,REF	
95		1.3/2	0.0	SAND: Red to rose, very fine- to medium-grained.		SP	48,50,REF	
100		1.5/2	3.0	SAND: Red to gold, fine- to medium-grained.		SP	REF	
105		1.8/2	1.0	SAND: Buff to rose, fine- to medium-grained, damp.		SP	50,REF	
110						SW		

TITLE: NAS Whiting Field		LOG of WELL: WHF-1466-2	BORING NO. SFF-SB-52
CLIENT: SOUTHNAVFACENGCOM			PROJECT NO: 7518-40
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 3/14/92	COMPLTD: 3/14/92
METHOD: 4.25" HSA	CASE SIZE: 4 inches	SCREEN INT.: 105-120 FT	PROTECTION LEVEL: D
TOC ELEV.: 180.72 FT.	MONITOR INST.: OVA	TOT DPTH: 120FT.	DPTH TO ∇ 109 FT.
LOGGED BY: N. Pagano	WELL DEVELOPMENT DATE:		SITE: 1466, South Fuel Farm

DEPTH FT.	LABORATORY SAMPLE ID.	RECOVERY SAMPLE	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
Continued from PAGE 2								
		2.0/2	0.0	SAND: Buff to gold to rose, fine- to coarse-grained, saturated.		SW	0,0,0,22	
115		2.0/2	0.0	SAND: Buff to red to rose, very fine- to medium-grained, trace silt, saturated.		SM	Wt. of Rod	
120		1.8/2	0.0	SAND: Rose to tan, fine- to coarse-grained, saturated.		SW	Wt. of Rod	
125								
130								
135								
140								
145								
150								
155								
160								
165								

TITLE: NAS Whiting Field		LOG of WELL: WHF-1466-2D	BORING NO. SFF-SB-47
CLIENT: SOUTHNAVFACENGCOM			PROJECT NO: 7518-40
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 5/10/92	COMPLTD: 5/10/92
METHOD: Mud Rotary	CASE SIZE: 468 inches	SCREEN INT.: 139-144 FT	PROTECTION LEVEL: D
TOC ELEV.: 190.03 FT.	MONITOR INST.: OVA	TOT DPTH: 144FT.	DPTH TO ∇ 101 FT.
LOGGED BY: J. Koch	WELL DEVELOPMENT DATE:		SITE: 1466, South Fuel Farm

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
							POSTHOLE	
5		1.0/2	0.0	CLAYEY SAND: Red to gold, fine-grained.		SC	6,12,13,18	
10		1.2/2	0.0	SAND: Red to tan, trace clay.		SC	6,12,12,15	
15		1.5/2	0.0	SAND: Red to tan, medium-grained, well-sorted.		SP	7,8,8,9	
20		1.0/2	0.0	SAND: Red to brown, fine- to coarse-grained, well-graded.		SW	8,10,12,12	
25		1.8/2	0.0	SAND: Red, very fine-grained to silt. CLAY: Brown, trace silt.		CL	5,6,6,9	
30		1.3/2	0.0	SAND: Tan, medium-grained, well-sorted.		SP	7,7,10,12	
35		1.5/2	0.0	SAND: White, medium-grained, well-sorted.		SP	6,8,11,14	
40		1.8/2	1.0	SAND: White, very fine- to fine-grained.		SP	9,12,12,18	
45		1.8/2	1.0				6,9,9,12	
50		1.0/2	0.0	CLAY: Pink, silty.		CL	9,10,12,15	
55						SP		

TITLE: NAS Whiting Field				LOG of WELL: WHF-1466-3		BORING NO. SFF-SB-48	
CLIENT: SOUTHNAVFACENGCOM						PROJECT NO: 7518-40	
CONTRACTOR: Groundwater Protection Inc.				DATE STARTED: 3/15/92		COMPLTD: 3/15/92	
METHOD: 4.25" HSA		CASE SIZE: 4 inches		SCREEN INT.: 130-145 FT		PROTECTION LEVEL: D	
TOC ELEV.: 197.42 FT.		MONITOR INST.: OVA		TOT DPTH: 145FT.		DPTH TO ∇ 140 FT.	
LOGGED BY: N. Pagano		WELL DEVELOPMENT DATE:				SITE: 1466, South Fuel Farm	

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
							POSTHOLE	
5		2.0/2	0.0	SAND: Brown to light brown, fine-grained.	•••••	SP		
10		2.0/2	0.0	CLAYEY SAND: Brown to tan to buff, fine- to medium-grained.	- - - - -	SC		
15		1.6/2	0.0	CLAYEY SAND: Red-brown to tan to yellow, fine- to medium-grained.	- - - - -	SC		
20		1.3/2	0.0	CLAY: White to tan to brown to rose, fine- to medium-grained, stiff.	- - - - -	SC		
25		1.7/2	0.0	SANDY CLAY: White to buff to tan to rose, fine- to medium-grained.	- - - - -	SC		
30		2.0/2	0.0					
35		1.7/2	0.0	SAND: White to buff to brown, fine- to coarse-grained.	•••••	SW		
40		1.5/2	0.0	SAND: White to brown, fine- to medium-grained.	•••••	SP		
45		2.0/2	0.0	SAND: White to buff to pink, fine- to medium-grained.	•••••	SP		
50		1.7/2	0.0					
55						SP		

TITLE: NAS Whiting Field		LOG of WELL: WHF-1466-3	BORING NO. SFF-SB-48
CLIENT: SOUTHNAVFACEGCOM		PROJECT NO: 7518-40	
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 3/15/92	COMPLTD: 3/15/92
METHOD: 4.25" HSA	CASE SIZE: 4 inches	SCREEN INT.: 130-145 FT	PROTECTION LEVEL: D
TOC ELEV.: 197.42 FT.	MONITOR INST.: OVA	TOT DPTH: 145FT.	DPTH TO ∇: 140 FT.
LOGGED BY: N. Pagano	WELL DEVELOPMENT DATE:		SITE: 1466, South Fuel Farm

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
Continued from PAGE 1								
		1.3/2	0.0	SAND: White to buff to pink, fine- to medium-grained.		SP		
60		1.3/2	0.0	SAND: Rose to brown to buff, fine- to medium-grained.		SP		
65		1.2/2	0.0	SAND: White to buff, fine- to medium-grained.		SP		
70		1.1/2	0.0	SAND: White to buff, fine- to medium-grained.		SP		
75		1.8/2	0.0	SAND: White to buff, fine- to medium-grained.		SP		
80		1.0/2	0.0					
85		1.6/2	0.0	SAND: White to buff to tan to pink, fine- to medium-grained, trace clay.		SP		
90		1.3/2	0.0	SAND: Buff to rose to white, fine- to coarse-grained.		SW		
95		1.3/2	0.0	SAND: Pink to yellow to tan to buff, fine- to coarse-grained with some gravel.		SW		
100		1.5/2	1.0	SAND: Tan to buff to yellow to pink, fine- to medium-grained.		SP		
105		1.3/2	1.0	SAND: Yellow to brown to tan to buff, fine- to coarse-grained.		SW		
110						SP		

TITLE: NAS Whiting Field		LOG of WELL: WHF-1466-2D	BORING NO. SFF-SB-47
CLIENT: SOUTHNAVFACENGCOM			PROJECT NO: 7518-40
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 5/10/92	COMPLTD: 5/10/92
METHOD: Mud Rotary	CASE SIZE: 4&8 inches	SCREEN INT.: 139-144 FT	PROTECTION LEVEL: D
TOC ELEV.: 190.03 FT.	MONITOR INST.: OVA	TOT DPTH: 144FT.	DPTH TO ∇ 101 FT.
LOGGED BY: J. Koch	WELL DEVELOPMENT DATE:		SITE: 1466, South Fuel Farm

DEPTH FT.	LABORATORY SAMPLE ID.	RECOVERY HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
Continued from PAGE 1							
		1.5/2 2.0	SAND: White, very fine- to fine-grained.		SP	8,10,11,12	
80		1.5/2 3.0				12,17,22,25	
65		1.5/2 5.0	SAND: White, very fine- to medium-grained.		SP	15,19,26,30	
70		1.8/2 5.0	SAND: White, very fine- to coarse-grained with some quartz pebbles.		SW	15,22,24,18	
75		1.0/2 28.0	SAND: Buff, fine- to medium-grained.		SP	15,18,20,20	
80		2.0/2 16.0				24,30,35	
85		2.0/2 33.0				26,30,34	
90		1.5/2 42.0	SAND: Buff, medium- to coarse-grained.		SW	30,32,40	
95		2.0/2 39.0	SAND: Buff to gold, fine- to medium-grained.		SP	36,40	
100		1.5/2 50.0	SAND: Buff, fine- to medium-grained.		SP	45,50,REF	
105		1.0/2 80.0				50,REF	
110					SW		

TITLE: NAS Whiting Field		LOG of WELL: WHF-1466-2D	BORING NO. SFF-SB-47
CLIENT: SOUTHNAVFACENGCOM		PROJECT NO: 7518-40	
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 5/10/92	COMPLTD: 5/10/92
METHOD: Mud Rotary	CASE SIZE: 468 inches	SCREEN INT.: 139-144 FT	PROTECTION LEVEL: D
TOC ELEV.: 190.03 FT.	MONITOR INST.: OVA	TOT DPTH: 144FT.	DPTH TO V 101 FT.
LOGGED BY: J. Koch	WELL DEVELOPMENT DATE:		SITE: 1466, South Fuel Farm

DEPTH FT.	LABORATORY SAMPLE ID.	RECOVERY HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
Continued from PAGE 2							
		1.2/2 28.0	SAND: Brown to red, medium- to very coarse-grained, angular.		SW	29,30,32	
115		1.0/2 37.0	SAND: Very fine- to medium-grained with 5-20 mm sub-rounded quartz pebbles.		SW	48,REF	
120		1.2/2 3.0	CLAYEY SAND: Red, medium-grained.		SP	Wt. of Rod	
125		2.0/2 3.0	SILTY CLAY: Rose and gray.		CL	8,8,9,8	
130		2.0/2 0.0	CLAY: Rose and gray, stiff, silty.		CL	8,15,15,15	
135		2.0/2 2.0	CLAY: Gold to tan to red, very stiff.		CL	28,37	
140		2.0/2 4.0	SAND: Brown, fine- to medium-grained, saturated.		SP	8,12	
145		2.0/2 --	SAND: Red-brown, fine- to medium-grained, well-sorted, trace heavy minerals, mica.		SP		
150							
155							
160							
165							

TITLE: NAS Whiting Field		LOG of WELL: WHF-1466-3	BORING NO. SFF-SB-48
CLIENT: SOUTHNAVFACENGCOM			PROJECT NO: 7518-40
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 3/15/92	COMPLTD: 3/15/92
METHOD: 4.25" HSA	CASE SIZE: 4 inches	SCREEN INT.: 130-145 FT	PROTECTION LEVEL: D
TOC ELEV.: 197.42 FT.	MONITOR INST.: OVA	TOT DPTH: 145FT.	DPTH TO ∇ 140 FT.
LOGGED BY: N. Pagano	WELL DEVELOPMENT DATE:		SITE: 1466, South Fuel Farm

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
Continued from PAGE 2								
		1.2/2	0.0	SAND: White to tan to buff, fine- to medium-grained, moist.		SP		
115		1.0/2	0.0					
120		1.1/2	2.0	SAND: Pink to buff to white, fine- to medium-grained.		SP		
125		1.2/2	7.0	SAND: Pink to tan to orange to buff, fine- to coarse-grained, moderate gravels.		SW		
130		2.0/2	G.C.	SAND: Buff to tan, very fine- to medium-grained with some gravel, silty, saturated.		SP		
135		2.0/2	N.M.	SAND: Buff to brown to red to orange, very fine- to medium-grained, silty, trace clay, saturated.				
140		1.1/2	N.M.	SAND: White, fine- to medium-grained, moist.		SP		
145		2.0/2	G.C.	SAND: Rose to pink to buff to white, fine- to coarse-grained, saturated.		SW		
150		1.9/2	G.C.	SAND: Pink to brown to white, fine- to medium-grained, saturated.		SP		
155								
160								
165								

TITLE: NAS Whiting Field		LOG of WELL: WHF-1466-3D		BORING NO. SFF-SB-46	
CLIENT: SOUTHNAVFACENGCOM				PROJECT NO: 7518-40	
CONTRACTOR: Groundwater Protection Inc.			DATE STARTED: 5/11/92		COMPLTD: 5/11/92
METHOD: Mud Rotary		CASE SIZE: 468 inches	SCREEN INT.: 144-149 FT		PROTECTION LEVEL: D
TOC ELEV.: 179.75 FT.		MONITOR INST.: OVA	TOT DPTH: 149FT.		DPTH TO ∇ FT.
LOGGED BY: J. Koch		WELL DEVELOPMENT DATE:			SITE: 1466, South Fuel Farm

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
5			1.6/2	0.0	CLAYEY SAND: Red-brown, fine- to medium-grained.		SC		
10			1.6/2	0.0					
15			1.5/2	0.0	CLAYEY SAND: Red-brown to yellow, fine- to medium-grained.		SC		
20			1.8/2	0.0	SAND: Buff to yellow to red-brown, fine- to medium-grained, trace clay.		SP		
25			1.6/2	0.0	SAND: White to buff to red-brown, fine- to medium-grained.		SP		
30			1.6/2	0.0	SAND: White to buff, fine- to medium-grained.		SP		
35			1.5/2	0.0	SAND: White to buff to pink-brown, fine- to medium-grained.		SP		
40			1.0/2	0.0					
45			1.0/2	0.0	SAND: White to buff to pink, fine- to coarse-grained, trace clay.		SW		
50			1.0/2	0.0	SAND: White to buff to brown, fine- to medium-grained.		SP		
55									

TITLE: NAS Whiting Field		LOG of WELL: WHF-1466-3D	BORING NO. SFF-SB-46
CLIENT: SOUTHNAVFACENGCOM		PROJECT NO: 7518-40	
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 5/11/92	COMPLTD: 5/11/92
METHOD: Mud Rotary	CASE SIZE: 468 inches	SCREEN INT.: 144-149 FT	PROTECTION LEVEL: D
TOC ELEV.: 179.75 FT.	MONITOR INST.: OVA	TOT DPTH: 149FT.	DPTH TO ∇ FT.
LOGGED BY: J. Koch	WELL DEVELOPMENT DATE:		SITE: 1466, South Fuel Farm

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
Continued from PAGE 1								
		1.0/2	0.0					
60		0.8/2	1.0	SAND: White to buff to brown, fine- to medium-grained.		SP		
65		1.0/2	0.0	SAND: White to buff, fine- to coarse-grained.		SW		
70		1.0/2	0.0	SAND: White to buff to rose, fine- to coarse-grained with some gravel.		SW		
75		1.0/2	0.0	SAND: White to rose to yellow, fine- to medium-grained.		SP		
80		1.0/2	0.0	SAND: White to buff to rose, fine- to coarse-grained.		SW		
85		1.3/2	0.0					
90		1.5/2	0.0	SAND: Buff to tan to yellow, fine- to medium-grained.		SP		
95		1.0/2	0.0					
100		1.0/2	0.0	SAND: Tan to buff to yellow, fine- to coarse-grained, trace clay.		SW		
105		1.0/2	0.0	SAND: Tan to buff to yellow, fine- to coarse-grained, trace clay.		SW		
110						SW		

TITLE: NAS Whiting Field		LOG of WELL: WHF-1466-3D	BORING NO. SFF-SB-48
CLIENT: SOUTHNAVFACENGCOM		PROJECT NO: 7518-40	
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 5/11/92	COMPLTD: 5/11/92
METHOD: Mud Rotary	CASE SIZE: 488 inches	SCREEN INT.: 144-149 FT	PROTECTION LEVEL: D
TOC ELEV.: 179.75 FT.	MONITOR INST.: OVA	TOT DPTH: 149FT.	DPTH TO ∇ FT.
LOGGED BY: J. Koch	WELL DEVELOPMENT DATE:		SITE: 1466, South Fuel Farm

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
Continued from PAGE 2								
		2.0/2	G.C.	SAND: Rose to tan to buff to white, fine- to coarse-grained, saturated.		SW		
115		1.0/2	G.C.	SAND: Rose to buff, fine- to coarse-grained, saturated.		SW		
120								
125								
130				CLAY: Light gray to brown, low plasticity, some mica, some sand, very fine-grained.		CL		
135				CLAY: Light gray to brown, moderate plasticity, some mica.		CL		
140				CLAY: Brown to gray to pink, high plasticity, pebbles, mica.		CH		
145								
150								
155								
160								
165								

TITLE: NAS Whiting Field				LOG of WELL: WHF-1466-4		BORING NO. SFF-SB-40	
CLIENT: SOUTHNAVFACENGCOM						PROJECT NO: 7518-40	
CONTRACTOR: Groundwater Protection Inc.				DATE STARTED: 3/16/92		COMPLTD: 3/16/92	
METHOD: 4.25" HSA		CASE SIZE: 4 inches		SCREEN INT.: 132-147 FT		PROTECTION LEVEL: D	
TOC ELEV.: 190.37 FT.		MONITOR INST.: OVA		TOT DPTH: 151FT.		DPTH TO ▽ 135 FT.	
LOGGED BY: N. Pagano		WELL DEVELOPMENT DATE:				SITE: 1466, South Fuel Farm	

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
5		1.2/2	2.0	CLAY: Yellowish-brown to red, slightly sandy.		SC		
10		1.0/2	0.0					
15		1.0/2	0.0	SANDY CLAY: Gray to yellow to light red, some stratification.		SC		
20		1.2/2	0.0	SAND: Light red, orange, yellow, and white, medium- to coarse-grained, poorly-sorted.		SW		
25		1.3/2	0.0					
30		1.1/2	0.0	SAND: Light pink to white, fine- to medium-grained, poorly-sorted, slightly damp.		SW		
35		1.0/2	0.0	SAND: Pink, rose, light gray, medium-grained, moderate-sorting.		SP		
40		1.1/2	0.0	SAND: Pink to white to light yellow, medium- to coarse-grained, fair sorting.		SW		
45		1.3/2	0.0					
50		1.3/2	0.0	SAND: Light yellow to white to light pink to light orange, fine- to coarse-grained, poorly-sorted, slightly silty, damp.		SW		
55						SP		

POSTHOLE

TITLE: NAS Whiting Field		LOG of WELL: WHF-1466-4	BORING NO. SFF-SB-40
CLIENT: SOUTHNAVFACENGCOM		PROJECT NO: 7518-40	
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 3/16/92	COMPLTD: 3/16/92
METHOD: 4.25" HSA	CASE SIZE: 4 inches	SCREEN INT.: 132-147 FT	PROTECTION LEVEL: D
TOC ELEV.: 190.37 FT.	MONITOR INST.: OVA	TOT DPTH: 151FT.	DPTH TO ▽ 135 FT.
LOGGED BY: N. Pagano	WELL DEVELOPMENT DATE:		SITE: 1466, South Fuel Farm

DEPTH FT.	LABORATORY SAMPLE ID.	RECOVERY SAMPLE	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
Continued from PAGE 1								
		1.0/2	1.0	SAND: White, medium-grained, moderate- to well-sorted.		SP		
60		1.1/2	1.0					
65		1.4/2	1.0	SAND: White, fine- to medium-grained, slightly silty, poorly-sorted.		SW		
70		1.1/2	0.0	SAND: White, medium-grained, fair sorting, trace heavy minerals, damp		SP		
75		1.2/2	0.0	SAND: White to pink to light yellow, medium-grained, fair sorting.		SP		
80		1.1/2	1.0					
85		1.4/2	0.0	SAND: Beige to light yellow to light red, medium- to coarse-grained, some gravel, poorly-sorted.		SW		
90		1.0/2	0.0					
95		1.2/2	1.0	SAND: Yellowish-gray to white, medium- to coarse-grained, fair to poor sorting, some gravel.		SW		
100		1.1/2	0.0	SAND: White to pink, fine- to coarse-grained, poorly-sorted, trace of heavy minerals.		SW		
105		1.0/2	0.0					
110						SW		

TITLE: NAS Whiting Field		LOG of WELL: WHF-1466-4	BORING NO. SFF-SB-40
CLIENT: SOUTHNAVFACENGCOM			PROJECT NO: 7518-40
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 3/16/92	COMPLTD: 3/16/92
METHOD: 4.25" HSA	CASE SIZE: 4 inches	SCREEN INT.: 132-147 FT	PROTECTION LEVEL: D
TOC ELEV.: 190.37 FT.	MONITOR INST.: OVA	TOT DPTH: 151 FT.	DPTH TO ∇: 135 FT.
LOGGED BY: N. Pagano	WELL DEVELOPMENT DATE:		SITE: 1466, South Fuel Farm

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
Continued from PAGE 2								
		1.1/2	0.0	SAND: White to beige to red to pink, medium- to coarse-grained, some gravel, poorly-sorted.		SW		
115		1.3/2	0.0					
120		1.1/2	0.0	SAND: Pinkish-beige to white, medium- to coarse-grained, some gravel, fair sorting.		SW		
125		1.4/2	0.0					
130		1.2/2	0.0	SAND: White, medium- to coarse-grained, poorly-sorted.		SW		
135		1.5/2	0.0	SAND: Light pinkish, white, coarse-grained, gravelly, poorly sorted, saturated.		SW		
140								
145		2.0/2	0.0	SAND: White to beige, medium- to coarse-grained, fair sorting, saturated.		SW		
150								
155								
160								
165								

TITLE: NAS Whiting Field				LOG of WELL: WHF-1466-5R		BORING NO. SFF-SB-34	
CLIENT: SOUTHNAVFACENGCOM						PROJECT NO: 7518-40	
CONTRACTOR: Groundwater Protection Inc.				DATE STARTED: 6/4/92		COMPLTD: 6/4/92	
METHOD: 4.25" HSA		CASE SIZE: 4 inches		SCREEN INT.: 117-132 FT		PROTECTION LEVEL: D	
TOC ELEV.: 175.18 FT.		MONITOR INST.: OVA		TOT DPTH: 132FT.		DPTH TO ▽ FT.	
LOGGED BY: N. Pagano		WELL DEVELOPMENT DATE:				SITE: 1466, South Fuel Farm	

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
							POSTHOLE	
5		1.0/2	0.0	SAND: Red, medium-grained, well-sorted.		SP	11,15,20,28	
10		1.0/2	1.0	SAND: Red, gold, pink, medium-grained, sandy clay, well-sorted.		SC	3,8,15,22	
15		1.0/2	0.0	SAND: White, red, pink and white striped, very fine- to coarse-grained d.		SW	3,8,14,13	
20		1.0/2	0.0	SAND: White and red striped, very fine-grained, silt, grading to medium grained.		SW	5,10,14,12	
25		1.0/2	0.0	SAND: Red and white striped, medium-grained, very coarse-grained, subangular gravel, white, 2".		SW	8,10,11,15	
30		1.0/2	0.0	SAND: Red and white striped, medium-grained, some fines.		SP	10,16,17,20	
35		1.0/2	0.0	SAND: Red, white, very fine- to fine-grained, silty, brown clay.		SP	9,10,11,13	
40		1.0/2	0.0	SAND: Red and white striped, fine-grained.		SP	20,27,37,39	
45		1.0/2	0.0	SAND: Red and white striped, fine- to medium-grained.		SP	9,11,17,15	
50		1.2/2	0.0	SAND: Brown, tan and red striped, medium-grained, silty, sandy clay.		SP	13,15,23,27	
55						SW		

TITLE: NAS Whiting Field		LOG of WELL: WHF-1466-5R	BORING NO. SFF-SB-34
CLIENT: SOUTHNAVFACENGCOM			PROJECT NO: 7518-40
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 6/4/92	COMPLTD: 6/4/92
METHOD: 4.25" HSA	CASE SIZE: 4 inches	SCREEN INT.: 117-132 FT	PROTECTION LEVEL: D
TOC ELEV.: 175.18 FT.	MONITOR INST.: OVA	TOT DPTH: 132FT.	DPTH TO ▽ FT.
LOGGED BY: N. Pagano	WELL DEVELOPMENT DATE:		SITE: 1466, South Fuel Farm

DEPTH F.T.	LABORATORY SAMPLE ID.	RECOVERY SAMPLE	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
Continued from PAGE 1								
		1.0/2	0.0	SAND: Fine to medium grained, large cobbles, quartz, subrounded.		SW	14,17,22,26	
60		1.0/2	0.0	SAND: White, fine- to medium-grained, grading to medium- and coarse- grained, reddish.		SP	13,17,16,18	
65		1.2/2	0.0	SAND: Red and white striped, fine- to medium-grained.		SP	13,15,15,16	
70		1.5/2	0.0	SAND: Red, white, fine- to medium-grained, layered, cobbles, subrounded.		SP	18,18,19,20	
75		1.5/2	0.0	SAND: Rose to beige to gold, fine- to medium-grained.		SP	18,20,23,22	
80		1.3/2	0.0	SAND: Gold and white striped, fine- to medium-grained, trace coarse grains.		SP	9,21,27,28	
85		1.5/2	N.M.	SAND: Gold and white striped, medium- to coarse-grained.		SP	29,22,23,25	
90		1.0/2	0.0	SAND: Gold, medium-grained, some coarse-grained, grading to white, fine grained.		SP	24,27,26,30	
95		1.3/2	0.0	SAND: Gold and white striped, fine- to medium-grained.		SP	18,32,36,40	
100		1.2/2	0.0	SAND: Gold and white striped, medium- to coarse-grained.		SW	21,25,36,42	
105		2.0/2	5.0	SAND: Pinkish, very fine-grained, silt.		SP	19,22,26,30	
110						SP		

TITLE: NAS Whiting Field		LOG of WELL: WHF-1466-5R		BORING NO. SFF-SB-34	
CLIENT: SOUTHNAVFACENGCOM				PROJECT NO: 7518-40	
CONTRACTOR: Groundwater Protection Inc.			DATE STARTED: 6/4/92		COMPLTD: 6/4/92
METHOD: 4.25" HSA		CASE SIZE: 4 inches		SCREEN INT.: 117-132 FT	
TOC ELEV.: 175.18 FT.		MONITOR INST.: OVA		PROTECTION LEVEL: D	
LOGGED BY: N. Pagano		WELL DEVELOPMENT DATE:		DEPTH TO ∇ FT.	
SITE: 1466, South Fuel Farm					

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
Continued from PAGE 2									
			1.5/2	0.0	SAND: White, very fine- to fine-grained.		SP	16,27,28,32	
115			1.0/2	0.0	SAND: White and some gold striped, fine- to medium-grained.		SP	36,37,40,44	
120			1.0/2	0.0	SAND: White, some gold and red stripes, fine-grained.		SP	33,40,44,48	
125			1.5/2	0.0	SAND: Brown, grey, fine-grained, trace of clay, 2" lens, saturated.		SP	8,10,11,13	
130			2.0/2	0.0	SAND: Red, gold, beige, fine-grained, saturated.		SP	Wt. of Rod	
135									
140									
145									
150									
155									
160									
165									

TITLE: NAS Whiting Field		LOG of WELL: WHF-1466-6	BORING NO. SFF-SB-42
CLIENT: SOUTHNAVFACENGCOM			PROJECT NO: 7518-40
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 3/25/92	COMPLTD: 3/25/92
METHOD: 4.25" HSA	CASE SIZE: 4 inches	SCREEN INT.: 115-130 FT	PROTECTION LEVEL: D
TOC ELEV.: 173.09 FT.	MONITOR INST.: OVA	TOT DPTH: 131 FT.	DPTH TO ▽ 112 FT.
LOGGED BY: N. Pagano	WELL DEVELOPMENT DATE:		SITE: 1466, South Fuel Farm

DEPTH F.T.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
							POSTHOLE	
5		1.8/2	0.0	SAND: Red and dark brown, fine- to medium-grained, trace clay.		SC	5,5,5,5	
10		1.0/2	0.0	SAND: Red, fine- to medium-grained, trace clay.		SC	1,2,2,5	
15		1.8/2	0.0				3,3,3,3	
20		1.5/2	0.0	SAND: Red, very fine- to fine-grained.		SP	6,6,7,8	
25		2.0/2	0.0	SAND: Red to white, fine- to medium-grained.		SP	8,9,14,14	
30		2.0/2	0.0	SAND: Red and white striped, very fine-grained, silt.		SM	14,14,16,16	
35		2.0/2	0.0	SAND: Red and white striped, very fine-grained, silt.		SM	14,16,19,20	
40		1.8/2	0.0	SAND: White and pink, very fine-grained, well-sorted.		SP	16,18,22,23	
45		1.8/2	0.0	SAND: White and beige, very fine-grained, well-sorted.		SP	15,16,20,20	
50		1.7/2	2.0	SAND: White with red stripes, medium-grained, well-sorted.		SP	10,10,12,16	
55						SP		

TITLE: NAS Whiting Field		LOG of WELL: WHF-1466-6	BORING NO. SFF-SB-42
CLIENT: SOUTHNAVFACENGCOM		PROJECT NO: 7518-40	
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 3/25/92	COMPLTD: 3/25/92
METHOD: 4.25" HSA	CASE SIZE: 4 inches	SCREEN INT.: 115-130 FT	PROTECTION LEVEL: 0
TOC ELEV.: 173.09 FT.	MONITOR INST.: OVA	TOT DPTH: 131FT.	DPTH TO ▽ 112 FT.
LOGGED BY: N. Pagano	WELL DEVELOPMENT DATE:		SITE: 1466, South Fuel Farm

DEPTH FT.	LABORATORY SAMPLE ID.	RECOVERY HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
Continued from PAGE 1							
		1.7/2	3.0	SAND: White with red stripes, medium-grained, some coarse grains.	SP	14,14,16,15	
60		1.7/2	2.0	SAND: White with thin stripes of red and black, fine- to medium- grained.	SP	10,12,12,14	
65		1.6/2	5.0	SAND: White and red, medium-grained with some small cobbles.	SP	12,15,15,19	
70		1.5/2	1.0	SAND: White with gold, medium- to coarse-grained.	SW	16,17,24,24	
75		2.0/2	0.0	SAND: Red, gold, beige, very fine-grained, silt and clay, mottled.	SM	Wt. of Rod	
80		2.0/2	0.0	SAND: Red, gold, grey, fine-grained, silt and clay, mottled.	SM	5,6,7,8	
85		2.0/2	0.0	SAND: White with gold stripes, very fine-grained grading to medium grained.	SP	29,32,36,36	
90		2.0/2	0.0	SAND: Beige with gold and red stripes, very fine-grained.	SP	20,22,22,24	
95		1.8/2	0.0	SAND: Beige, medium-grained, well-sorted.	SP	-22,34,32	
100		1.8/2	0.0	SAND: Very fine- to coarse-grained, 2" clayey lens.	SW	-22,38,50	
105		2.0/2	1.0	SAND: Beige, very fine- to medium-grained.	SW	50,R	
110					SW		

TITLE: NAS Whiting Field		LOG of WELL: WHF-1466-6	BORING NO. SFF-SB-42
CLIENT: SOUTHNAVFACENGCOM			PROJECT NO: 7518-40
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 3/25/92	COMPLTD: 3/25/92
METHOD: 4.25" HSA	CASE SIZE: 4 inches	SCREEN INT.: 115-130 FT	PROTECTION LEVEL: D
TOC ELEV.: 173.09 FT.	MONITOR INST.: OVA	TOT DPTH: 131 FT.	DPTH TO ∇: 112 FT.
LOGGED BY: N. Pagano	WELL DEVELOPMENT DATE:		SITE: 1466, South Fuel Farm

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
Continued from PAGE 2								
		2.0/2	0.0	SAND: Beige with red stripes, very fine- to medium-grained.		SW	36,48,46,50	
115		2.0/2	1.0	SAND: Beige, medium- to coarse-grained.		SW	- ,27,29,25	
120		2.0/2	3.0	SAND: Beige, gold, medium- to very coarse-grained, many large cobbles , moist.		SW	- ,20,25,33	
125		2.0/2	2.0	SAND: White with gold and red stripes, fine-grained, well-sorted, saturated.		SP	- , - ,20,19	
130		2.0/2	8.0	SAND: White, medium- to coarse-grained, saturated.		SW	17,20,29,33	
135		2.0/2	1.0				9,10,12,12	
140								
145								
150								
155								
160								
165								

TITLE: NAS Whiting Field		LOG of WELL: WHF-1466-7	BORING NO. SFF-SB-43
CLIENT: SOUTHNAVFACENGCOM		PROJECT NO: 7518-40	
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 3/26/92	COMPLTD: 3/26/92
METHOD: 4.25" HSA	CASE SIZE: 4 inches	SCREEN INT.: 115-130 FT	PROTECTION LEVEL: D
TOC ELEV.: 172.26 FT.	MONITOR INST.: OVA	TOT DPTH: 131FT.	DPTH TO ▽: FT.
LOGGED BY: N. Pagano	WELL DEVELOPMENT DATE:		SITE: 1466, South Fuel Farm

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
							POSTHOLE	
5		1.7/2	0.0	CLAY: Orange-red to red, very sandy grading to sand.	---	SC		
10		1.7/2	0.0	SANDY CLAY: Red, very sandy grading to sand.	---	SC		
15		1.0/2	0.0					
20		1.0/2	0.0	SAND: Orange-red, medium- to coarse-grained, poorly sorted.	•••	SW		
25		1.0/2	0.0	SAND: White, some orange, coarse-grained, moderately well sorted.	•••	SW		
30		1.3/2	0.0	SAND: White, pink, orange, medium- to coarse-grained, poorly sorted, 6" of stiff clay at bottom of spoon.	•••	SW		
35		1.0/2	0.0	CLAY: Gray to pinkish gray, stiff.				
40		1.0/2	0.0	SAND: White, medium-grained, moderately well sorted.	•••	SP		
45		1.2/2	0.0					
50		1.4/2	0.0	SAND: Light yellow to white with pink streaks, medium- to coarse- grained, some gravel, poorly sorted.	•••	SW		
55						SP		

TITLE: NAS Whiting Field		LOG of WELL: WHF-1466-7	BORING NO. SFF-SB-43
CLIENT: SOUTHNAVFACENGCOM			PROJECT NO: 7518-40
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 3/26/92	COMPLTD: 3/26/92
METHOD: 4.25" HSA	CASE SIZE: 4 inches	SCREEN INT.: 115-130 FT	PROTECTION LEVEL: D
TOC ELEV.: 172.26 FT.	MONITOR INST.: OVA	TOT DPTH: 131FT.	DPTH TO ∇ FT.
LOGGED BY: N. Pagano	WELL DEVELOPMENT DATE:		SITE: 1466, South Fuel Farm

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
Continued from PAGE 1								
		1.5/2	0.0	SAND: White to light gray, fine-grained, fair sorting.		SP		
60		1.3/2	0.0	SAND: White to light pink, medium- to coarse-grained, poorly sorted.		SW		
65		1.2/2	0.0	SAND: White, fine- to medium-grained, poorly sorted.		SW		
70		1.1/2	0.0	SAND: Light yellow to light pinkish-gray, medium- to coarse-grained, some gravel, poor sorting.		SW		
75		1.2/2	1.0	SAND: Yellow to light yellow, medium- to coarse-grained, fair to poor sorting, slightly damp.				
80		1.3/2	0.0					
85		1.1/2	0.0	SAND: Yellow to light yellow, medium- to very coarse-grained, fair to poor sorting.		SW		
90		1.3/2	0.0	SAND: White to light pinkish gray, medium- to coarse-grained, poorly sorted.		SW		
95		1.5/2	0.0					
100		1.3/2	0.0	SAND: Rose to pinkish gray, medium-grained, fair to good sorting, damp		SP		
105		1.4/2	0.0	SAND: Light beige to white, medium-grained, fair to good sorting.		SP		
110						SP		

TITLE: NAS Whiting Field		LOG of WELL: WHF-1466-7	BORING NO. SFF-SB-43
CLIENT: SOUTHNAVFACENGCOM		PROJECT NO: 7518-40	
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 3/26/92	COMPLTD: 3/26/92
METHOD: 4.25" HSA	CASE SIZE: 4 inches	SCREEN INT.: 115-130 FT	PROTECTION LEVEL: D
TOC ELEV.: 172.26 FT.	MONITOR INST.: OVA	TOT DPTH: 131FT.	DPTH TO ∇ FT.
LOGGED BY: N. Pagano	WELL DEVELOPMENT DATE:		SITE: 1466, South Fuel Farm

DEPTH F.T.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
Continued from PAGE 2									
		1.2/2	0.0		SAND: White, medium- to coarse-grained, fair to poor sorting.		SP		
115		1.2/2	0.0						
120		1.2/2	11.0		SAND: Pink and white, medium- to coarse-grained, poorly sorted, gravelly, very damp.		SW		
125		2.0/2	2.0		SAND: Beige, fine- to coarse-grained, poorly sorted, bottom 3" fine grained, silty, pinkish-white, saturated.		SW		
130		1.7/2	1.0		SAND: Beige to yellow-brown, fine- to coarse-grained, poor sorting, saturated.		SW		
135									
140									
145									
150									
155									
160									
165									

TITLE: NAS Whiting Field				LOG of WELL: WHF-1466-8		BORING NO. SFF-SB-44	
CLIENT: SOUTHNAVFACENGCOM						PROJECT NO: 7518-40	
CONTRACTOR: Groundwater Protection Inc.				DATE STARTED: 3/27/92		COMPLTD: 3/27/92	
METHOD: 4.25" HSA		CASE SIZE: 4 inch		SCREEN INT.: 115-130 FT		PROTECTION LEVEL: D	
TOC ELEV.: 172.24 FT.		MONITOR INST.: OVA		TOT DPTH: 131 FT.		DPTH TO V 121 FT.	
LOGGED BY: N. Pagano		WELL DEVELOPMENT DATE:				SITE: 1466, South Fuel Farm	

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
5		1.5/2	0.0	SAND: Red, fine- to medium-grained, trace clay.		SC	2,2,2,2	
10		1.5/2	0.0				3,2,2,2	
15		1.8/2	1.0	SAND: Red, fine- to medium-grained, trace clay.		SC	4,5,5,5	
20		1.8/2	0.0				3,3,4,4	
25		1.8/2	0.0	SAND: Red and white, medium-grained, well-sorted.		SP	4,7,7,10	
30		1.5/2	0.0	SAND: Red and white, coarse-grained, well-sorted.		SP	6,12,12,12	
35		1.8/2	0.0	SAND: White with gold and red stripes, fine- to medium-grained.		SP	6,10,12,12	
40		2.0/2	0.0	CLAY: Red, gold, beige, silty, mottled, dry strength.		CL	8,10,12,14	
45		2.0/2	0.0	SAND: Beige with red and pink stripes, very fine- to medium-grained.		SP	Wt. of Rod	
50		2.0/2	0.0	SAND: Beige and pink, fine-grained, silty.		SP	7,7,8,9	
55						SW		

TITLE: NAS Whiting Field		LOG of WELL: WHF-1466-8	BORING NO. SFF-SB-44
CLIENT: SOUTHNAVFACENGCOM		PROJECT NO: 7518-40	
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 3/27/92	COMPLTD: 3/27/92
METHOD: 4.25" HSA	CASE SIZE: 4 inch	SCREEN INT.: 115-130 FT	PROTECTION LEVEL: D
TOC ELEV.: 172.24 FT.	MONITOR INST.: OVA	TOT DPTH: 131FT.	DPTH TO ∇ 121 FT.
LOGGED BY: N. Pagano	WELL DEVELOPMENT DATE:		SITE: 1466, South Fuel Farm

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
Continued from PAGE 1								
		2.0/2	2.0	SAND: Beige, pink, fine- to coarse-grained.		SW	-,-,17,19	
60		2.0/2	0.0	SAND: Pink and beige, fine- to medium-grained, 1" clayey sand lens, red.		SP	Wt. of Rod	
65		2.0/2	1.0	SAND: Beige, fine- to very coarse-grained, cobbles throughout spoon.		SW	8,12,16,25	
70		2.0/2	0.0	SAND: Beige, fine- to medium-grained.		SP	12,14,20,22	
75		2.0/2	0.0	SAND: Fine- to medium-grained, cobbles.		SW	15,17,19,25	
80		2.0/2	0.0	SAND: White, very fine- to medium-grained.		SW	-,-,22,24	
85		1.8/2	0.0	SAND: Pink, fine- to medium-grained.		SP	22,24,36,40	
90		1.5/2	0.0	SAND: White with pale pink stripes, fine-grained, well-sorted.		SP	25,30,33,36	
95		1.5/2	2.0	SAND: Beige, medium-grained grading to coarse-grains, cobbles.		SW	-,26,29,30	
100		2.0/2	5.0	SAND: Beige, medium-grained, some coarse and fine grains.		SP	-,-,33,34	
105		1.5/2	0.0	SAND: White, medium-grained, well-sorted.		SP	50,R	
110						SP		

TITLE: NAS Whiting Field		LOG of WELL: WHF-1466-8	BORING NO. SFF-SB-44
CLIENT: SOUTHNAVFACENGCOM			PROJECT NO: 7518-40
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 3/27/92	COMPLTD: 3/27/92
METHOD: 4.25" HSA	CASE SIZE: 4 inch	SCREEN INT.: 115-130 FT	PROTECTION LEVEL: D
TOC ELEV.: 172.24 FT.	MONITOR INST.: OVA	TOT DPTH: 131FT.	DPTH TO ∇ 121 FT.
LOGGED BY: N. Pagano	WELL DEVELOPMENT DATE:		SITE: 1466, South Fuel Farm

DEPTH FT.	LABORATORY SAMPLE ID.	RECOVERY SAMPLE	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
Continued from PAGE 2								
		1.8/2	1.0	SAND: White, very fine- to medium-grained.		SP	-29,30,30	
115		2.0/2	1.0	SAND: White, very fine- to fine-grained.		SP	-, -,27,40	
120		1.0/2	0.0	SAND: White, medium- to coarse-grained, saturated.		SP	Wt. of Rod	
125		2.0/2	2.0	SAND: White, medium- to coarse-grained, saturated.		SP	-, -,14,16	
130		1.8/2	1.0	SAND: White, medium- to coarse-grained, saturated.		SP	10,14,20,28	
135								
140								
145								
150								
155								
160								
165								

TITLE: NAS Whiting Field				LOG of WELL: WHF-1466-9		BORING NO. SFF-SB-50	
CLIENT: SOUTHNAVFACENGCOM						PROJECT NO: 7518-40	
CONTRACTOR: Groundwater Protection Inc.				DATE STARTED: 3/27/92		COMPLTD: 3/27/92	
METHOD: 4.25" HSA		CASE SIZE: 4 inches		SCREEN INT.: 100-115 FT		PROTECTION LEVEL: D	
TOC ELEV.: 173.2 FT.		MONITOR INST.: OVA		TOT DPTH: 116FT.		DPTH TO ∇ 102 FT.	
LOGGED BY: N. Pagano		WELL DEVELOPMENT DATE:				SITE: 1466, South Fuel Farm	

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
5		2.0/2	0.0	CLAYEY SAND: Brick red, fine-grained.	— —	SC	2,1,2,3	
10		1.7/2	0.0	SAND: Tan, very fine- to medium-grained, trace clay.		SP	2,3,3,4	
15		1.7/2	0.0	SAND: Red to brown, medium-grained, trace clay.		SP	8,7,12,8	
20		1.8/2	0.0	SAND: Buff to rose, medium-grained, well-sorted.		SP	8,12,16,16	
25		1.8/2	1.0				8,10,16,8	
30		2.0/2	0.0	SAND: White with black, gold, and rose, very fine- to fine-grained.		SP	9,10,12,12	
35		2.0/2	0.0	SAND: White to rose, very fine- to fine-grained, well-sorted.		SP	10,12,13,14	
40		2.0/2	0.0				11,15,15,18	
45		2.0/2	1.0				0,0,6,7	
50		1.8/2	0.0				Wt. of Rod	
55		N/A	N/A				N/A	
60		2.0/2	2.0				0,0,0,11	
65		1.8/2	0.0	SAND: Buff to red, fine- to medium-grained.		SP	10,11,11,12	
70								

TITLE: NAS Whiting Field		LOG of WELL: WHF-1466-9	BORING NO. SFF-SB-50
CLIENT: SOUTHNAVFACENGCOM			PROJECT NO: 7518-40
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 3/27/92	COMPLTD: 3/27/92
METHOD: 4.25" HSA	CASE SIZE: 4 inches	SCREEN INT.: 100-115 FT	PROTECTION LEVEL: D
TOC ELEV.: 173.2 FT.	MONITOR INST.: OVA	TOT DPTH: 116FT.	DPTH TO ∇ 102 FT.
LOGGED BY: N. Pagano	WELL DEVELOPMENT DATE:		SITE: 1466, South Fuel Farm

DEPTH F.T.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
Continued from PAGE 1									
			2.0/2	1.0				10,16,16,17	
75			1.8/2	6.0	SAND: White to rose, fine- to very coarse-grained, well-sorted.	• • •	SW	0,0,10,15	
80			1.8/2	4.0	SAND: Medium to very coarse-grained with <5mm pebbles.	• • •	SW	18,15,15,15	
85			1.0/2	1.0	SAND: Rose, very fine- to fine-grained.		SP	0,20,35,37	
90			1.2/2	2.0	SAND: White to rose, very fine- to medium-grained.	• • •	SW	0,20,25,32	
95			0.8/2	0.0	SAND: White to brick red to rose, fine- to medium-grained.		SP	0,30,35,35	
100			1.0/2	7.0	SAND: Mustard, medium to very coarse-grained, trace clay, damp.	• • •	SW	Wt. of Rod	
105			2.0/2	0.0	CLAY: Gray, trace silt.		CL	Wt. of Rod	
110			2.0/2	0.0	CLAY: Gray to red, very stiff.		CL	0,6,8,14	
115			2.0/2	0.0				10,12,13,15	
120			2.0/2	N/A				9,10,14,16	
125			2.0/2	N/A	SAND: Mustard, fine-grained, well-sorted, saturated.		SP	Wt. of Rod	
130			2.0/2	2.0	SAND: Tan, fine-grained, well-sorted, saturated.		SP	0,8,15,30	
135			2.0/2	0.0				0,0,12,15	
140									

TITLE: NAS Whiting Field				LOG of WELL: WHF-1466-10		BORING NO. SFF-SB-6	
CLIENT: SOUTHNAVFACENGCOM				PROJECT NO: 7518-40			
CONTRACTOR: Groundwater Protection Inc.				DATE STARTED: 11/05/91		COMPLTD: 11/06/91	
METHOD: 4.25" HSA		CASE SIZE: 4 inches		SCREEN INT.: 107-122 FT		PROTECTION LEVEL: D	
TOC ELEV.: 172.08 FT.		MONITOR INST.: OVA		TOT DPTH: 122FT.		DPTH TO ∇ 114 FT.	
LOGGED BY: N. Pagano		WELL DEVELOPMENT DATE:				SITE: 1466, South Fuel Farm	

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
			0.0	CLAYEY SAND: Light brown, very fine-grained. CLAY: Red, poor placticty.			POSTHOLE	
5		2.0/2	1.0	CLAY: Orange-brown to red with streaks of sandy clay, poor plasticity, silty.		CL	2,6,8,10	
10		1.5/2	1.0				12,12,18,17	
15		1.5/2	2.0	SAND: Red-orange to tan, fine- to medium-grained, trace silt, trace clay.		SP	23,36,30,31	
20		1.0/2	2.0				16,20,20,25	
25		1.0/2	1.0	SAND: Light tan to white, medium-grained, trace silt, trace heavy minerals.		SP	14,18,23,26	
30		1.0/2	1.0	SAND: Red-orange to tan with green to gray streaks, fine- to medium- grained, trace silt, clay, and heavy minerals.		SP	16,22,30,32	
35		0.8/2	2.0				16,20,24,31	
40		0.8/2	7.0	SAND: Tan with some greenish streaks, mostly medium-grained, trace heavy minerals.		SP	22,27,25,41	
45		1.0/2	3.0				22,34,41,58	
50		1.3/2	28.8	SAND: Light reddish-orange to tan banded with layers of light gray and greenish silty sand, mostly fine- to medium-grained with trace silt and clay, trace heavy minerals.		SP	18,30,47,56	
55						SP		

TITLE: NAS Whiting Field		LOG of WELL: WHF-1466-10	BORING NO. SFF-SB-6
CLIENT: SOUTHNAVFACENGCOM		PROJECT NO: 7518-40	
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 11/05/91	COMPLTD: 11/06/91
METHOD: 4.25" HSA	CASE SIZE: 4 inches	SCREEN INT.: 107-122 FT	PROTECTION LEVEL: 0
TOC ELEV.: 172.08 FT.	MONITOR INST.: OVA	TOT DPTH: 122FT.	DPTH TO ∇ 114 FT.
LOGGED BY: N. Pagano	WELL DEVELOPMENT DATE:		SITE: 1466, South Fuel Farm

DEPTH F.T.	LABORATORY SAMPLE ID.	RECOVERY HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
Continued from PAGE 1							
		1.0/2 30.7	SAND: Red-brown to white, very fine-grained.		SP	15,17,19,19	
60		0.6/2 40.0				15,19,17,18	
65		0.8/2 38.0	SAND: Reddish-brown to white, fine- to medium-grained, well-sorted.		SP	22,18,34,44	
70		1.0/2 34.0				18,33,44,46	
75		0.8/2 36.0	SAND: Red-brown to white to green, fine- to medium-grained with small lenses of clay.		SP	21,17,38,43	
80		0.8/2 36.0				20,26,30,37	
85		0.8/2 40.5	SAND: Reddish-brown to white, fine- to medium-grained.		SP	25,26,27,34	
90		1.0/2 44.0				36,38,53,51	
95		1.0/2 36.0	SAND: Reddish-brown to white, fine- to medium-grained.		SP	29,40,56,65	
100		1.0/2 22.0	SAND: Reddish-brown to white, fine- to medium-grained with small lenses of clay.		SP	40,58,66,66	
105		0.8/2 31.7	SAND: Red-brown to yellow to white, fine- to medium-grained.		SP	32,46,57,55	
110					SP		

TITLE: NAS Whiting Field		LOG of WELL: WHF-1466-10	BORING NO. SFF-SB-6
CLIENT: SOUTHNAVFACEGCOM		PROJECT NO: 7518-40	
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 11/05/91	COMPLTD: 11/06/91
METHOD: 4.25" HSA	CASE SIZE: 4 inches	SCREEN INT.: 107-122 FT	PROTECTION LEVEL: D
TOC ELEV.: 172.08 FT.	MONITOR INST.: OVA	TOT DPTH: 122FT.	DPTH TO ∇ 114 FT.
LOGGED BY: N. Pagano	WELL DEVELOPMENT DATE:		SITE: 1466, South Fuel Farm

DEPTH F.T.	LABORATORY SAMPLE ID.	RECOVERY SAMPLE	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
Continued from PAGE 2								
		0.8/2	47.0	SAND: Reddish-brown to white, fine- to medium-grained.		SP	15,24,30,20	
115		1.0/2	44.0	SAND: Reddish-brown to green, fine- to medium-grained, small lenses of clay.		SP	38,54,56,57	
120		1.0/2	48.0	SAND: Light red-brown, fine- to medium-grained with thin layers of gray to brown clayey sand.		SP	26,42,46,48	
125		1.0/2	87.0	CLAYEY SAND: Light gray, very fine-grained.		SC	11,17,20,15	
130		1.0/2	280.0	CLAYEY SAND: Light brown, green and orange, very fine-grained.		SC	15,27,19,18	
135		1.0/2	270.0				13,11,14,18	
140		0.6/2	32.0	SAND: Light red-brown to light gray, fine- to medium-grained with small lenses of clay.		SC	9,17,28,29	
145		1.0/2	28.0	SAND: Light gray, fine- to medium-grained.		SP	23,35,47,45	
150		1.6/2	22.0				37,51,54,58	
155		1.0/2	4.5	SAND: Light gray to light red-brown, fine-grained.		SP	38,57,59,63	
160		1.5/2	6.8	SAND: Light red-brown, fine- to medium-grained.		SP	43,44,38,40	
165								

TITLE: NAS Whiting Field		LOG of WELL: WHF-1466-11	BORING NO. SFF-SB-51
CLIENT: SOUTHNAVFACENGCOM			PROJECT NO: 7518-40
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 3/29/92	COMPLTD: 3/29/92
METHOD: 4.25" HSA	CASE SIZE: 4 inches	SCREEN INT.: 90-104 FT	PROTECTION LEVEL: D
TOC ELEV.: 175.87 FT.	MONITOR INST.: OVA	TOT DPTH: 104FT.	DPTH TO ∇ 90 FT.
LOGGED BY: N. Pagano	WELL DEVELOPMENT DATE:		SITE: 1466, South Fuel Farm

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
								POSTHOLE	
5			1.0/2	0.0	CLAYEY SAND: Brick red, fine- to medium-grained.		SC	3,3,3,2	
10			1.5/2	0.0				3,3,2,3	
15			1.8/2	0.0	SAND: Red to tan, fine- to medium-grained, trace clay.		SC	6,15,15,18	
20			2.0/2	0.0	CLAYEY SAND: Red to buff, medium-grained. SAND: Red to buff, fine- to medium-grained.		SC	10,12,18,18	
25			1.8/2	0.0	SAND: White, fine- to medium-grained, well-graded.		SP	12,16,18,23	
30			2.0/2	1.0				15,24,30,31	
35			2.0/2	1.0				22,29,30,31	
40			2.0/2	1.0	SAND: White, fine-grained, well-sorted.		SP	21,30,33,40	
45			2.0/2	1.0	SILTY CLAY: Tan to rose to brown.		CL	12,12,12,12	
50			1.8/2	1.0	SAND: Tan to rose to brown, very fine-grained, well-sorted.		SP	0,12,12,13	
55							SP		

TITLE: NAS Whiting Field		LOG of WELL: WHF-1466-11	BORING NO. SFF-SB-51
CLIENT: SOUTHNAVFACENGCOM			PROJECT NO: 7518-40
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 3/29/92	COMPLTD: 3/29/92
METHOD: 4.25" HSA	CASE SIZE: 4 inches	SCREEN INT.: 90-104 FT	PROTECTION LEVEL: D
TOC ELEV.: 175.87 FT.	MONITOR INST.: OVA	TOT DPTH: 104FT.	DPTH TO V 90 FT.
LOGGED BY: N. Pagano	WELL DEVELOPMENT DATE:		SITE: 1466, South Fuel Farm

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
Continued from PAGE 1								
		1.8/2	1.0	SAND: Tan to red, fine-grained, well-sorted.		SP	0,0,15,20	
60		1.8/2	1.0				0,0,15,20	
65		1.6/2	0.0				10,15,23,30	
70		1.6/2	1.0	SAND: White, medium-grained, well-sorted.		SP	12,15,18,20	
75		1.5/2	1.0				0,10,17,20	
80		1.5/2	1.0	SAND: White to pink, fine- to medium-grained.		SP	0,0,19,26	
85		1.5/2	7.0	SAND: Gold, medium-grained, well-sorted. SAND: Buff to red to gold, fine- to coarse-grained, well-graded.		SP	10,12,15,15	
90		1.5/2	0.0	SAND: Buff, fine- to medium-grained.		SP	30,45,REF	
95		1.3/2	3.0	SAND: Red to rose, very fine- to medium-grained.		SW	50,REF	
100		1.5/2	2.0	SAND: Red to gold, fine- to medium-grained.		SP	23,25,25,25	
105		1.8/2	1.0	SAND: Buff to rose, fine- to medium-grained, damp.		SP	50,REF	
110								

TITLE: NAS Whiting Field		LOG of WELL: WHF-1466-12		BORING NO. SFF-SB-53	
CLIENT: SOUTHNAVFACENGCOM				PROJECT NO: 7518-40	
CONTRACTOR: Groundwater Protection Inc.			DATE STARTED: 3/30/92		COMPLTD: 3/30/92
METHOD: 4.25" HSA		CASE SIZE: 4 inches		SCREEN INT.: 125-140 FT	
TOC ELEV.: 189.92 FT.		MONITOR INST.: OVA		PROTECTION LEVEL: D	
LOGGED BY: N. Pagano		TOT DPTH: 147 FT.		DPTH TO ∇ 129 FT.	
WELL DEVELOPMENT DATE:			SITE: 1466, South Fuel Farm		

DEPTH FT.	LABORATORY SAMPLE ID.	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
							POSTHOLE	
5		1.5/2	N/A	CLAYEY SAND: Gold to red, fine- to medium-grained, with 5-25 mm pebbles.		SC	6,8,10,16	
10		1.8/2	N/A	SILTY CLAY: Red to buff.		CL	10,10,10,14	
15		1.8/2	N/A	SANDY CLAY: Red. SAND: Red, medium-grained, well-sorted.		SC	10,12,18,20	
20		2.0/2	N/A	SAND: Red to white, medium-grained, well-sorted.		SP	16,18,20,20	
25		1.8/2	1.0	SAND: Red to white, fine- to medium-grained.		SP	10,15,22,22	
30		2.0/2	N/A	CLAY: Purple, stiff.		CH	6,7,7,12	
35		2.0/2	N/A	SILTY CLAY: Red to white.		CL	4,5,5,5	
40		2.0/2	1.0	SAND: White, fine-grained, well-sorted.		SP	30,45,45,48	
45		2.0/2	1.0				10,12,31,40	
50		1.8/2	N/A	SAND: White to red, very fine-grained, silty. CLAYEY SAND: White, silty.		SP	10,12,12,15	
55						SP		

TITLE: NAS Whiting Field		LOG of WELL: WHF-1466-12	BORING NO. SFF-SB-53
CLIENT: SOUTHNAVFACEGCOM		PROJECT NO: 7518-40	
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 3/30/92	COMPLTD: 3/30/92
METHOD: 4.25" HSA	CASE SIZE: 4 inches	SCREEN INT.: 125-140 FT	PROTECTION LEVEL: D
TOC ELEV.: 189.92 FT.	MONITOR INST.: OVA	TOT DPTH: 147FT.	DPTH TO ∇ 129 FT.
LOGGED BY: N. Pagano	WELL DEVELOPMENT DATE:		SITE: 1466, South Fuel Farm

DEPTH F.T.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
Continued from PAGE 1								
		1.0/2	4.0	SAND: White to pink, fine-grained.		SP	10,10,10,12	
60		1.0/2	7.0	SAND: White to pink, very fine- to fine-grained.		SP	10,12,12,16	
65		1.2/2	3.0	SAND: White, fine- to medium-grained, well-graded.		SP	9,15,20,22	
70		1.8/2	3.0	SAND: Tan to rose, fine- to very coarse-grained with <3mm pebbles, poorly graded.		SW	0,15,14,15	
75		1.0/2	5.0	SAND: White, fine- to medium-grained, poorly-graded.		SW	0,0,0,15	
80		1.0/2	1.0	SAND: White, fine- to coarse-grained, poorly-graded.		SW	0,0,23,23	
85		1.2/2	4.0	SAND: White to pink, medium- to coarse-grained.		SW	20,23,25,25	
90		1.2/2	6.0	SAND: White, fine- to coarse-grained, poorly-graded.		SW	0,20,22,22	
95		1.5/2	3.0	SAND: White to red, fine- to coarse-grained, poorly-graded.		SW	0,0,20,25	
100		1.5/2	3.0	SAND: White, fine- to medium-grained, well-graded.		SP	28,30,37,35	
105		1.7/2	4.0	SAND: White to red, medium-grained, well-sorted.		SP	0,37,39,40	
110						SP		

TITLE: NAS Whiting Field		LOG of WELL: WHF-1466-12	BORING NO. SFF-SB-53
CLIENT: SOUTHNAVFACENGCOM			PROJECT NO: 7518-40
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 3/30/92	COMPLTD: 3/30/92
METHOD: 4.25" HSA	CASE SIZE: 4 inches	SCREEN INT.: 125-140 FT	PROTECTION LEVEL: D
TOC ELEV.: 189.92 FT.	MONITOR INST.: OVA	TOT DPTH: 147FT.	DPTH TO ∇ 129 FT.
LOGGED BY: N. Pagano	WELL DEVELOPMENT DATE:		SITE: 1466, South Fuel Farm

DEPTH FT.	LABORATORY SAMPLE ID.	RECOVERY SAMPLE	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
Continued from PAGE 2								
		1.5/2	7.0	SAND: Tan to red to gold, medium- to coarse-grained, well-graded.		SP	0,0,20,25	
115		1.4/2	1.0				20,20,22,22	
120		2.0/2	0.0	SILTY CLAY: Red to gold to tan, soft, moist.		CL	Wt. of Rod	
125		2.0/2	0.0	SILTY CLAY: Gray to purple-red, soft, moist.		CL	Wt. of Rod	
130		2.0/2	0.0	SILTY CLAY: Tan to gray, soft, moist.		CL	0,7,9,10	
135		2.0/2	0.0	SANDY CLAY: Gold, moist.		SC	Wt. of Rod	
140		2.0/2	2.0	SAND: Tan, fine- to medium-grained, trace clay, saturated.		SP	0,0,15,15	
145		2.0/2	10.0	SAND: Tan, fine-grained, well-sorted, saturated.		SP		
150		NR						
155								
160								
165								

TITLE: NAS Whiting Field		LOG of WELL: WHF-1466-13	BORING NO. SFF-SB-23
CLIENT: SOUTHNAVFACEGCOM		PROJECT NO: 7518-30	
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 5/21/92	COMPLTD: 5/21/92
METHOD: 4.25" HSA	CASE SIZE: 4 inches	SCREEN INT.: 115-130 FT	PROTECTION LEVEL: D
TOC ELEV.: 177.31 FT.	MONITOR INST.: OVA	TOT DPTH: 130FT.	DPH TO V 118.5 FT.
LOGGED BY: J. Williams/N. Pagano	WELL DEVELOPMENT DATE:		SITE: 1466, South Fuel Farm

DEPTH F.T.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
								POSTHOLE	
5			1.2/2	0.0	CLAY: Reddish brown to tan, high plasticity, mica flakes.		CH	5,10,12,17	
10			1.5/2	0.0	CLAY: Light reddish brown to pink, very stiff.		CH	4,7,11,12	
15			1.5/2	0.0	SAND: Dark red to peach, fine- to medium-grained, well-sorted.		SP	3,6,8,10	
20			1.7/2	0.0	SAND: Dark pink to peach, fine- to medium-grained, well-sorted, trace heavy minerals.		SP	5,7,7,9	
25			1.5/2	0.0	SAND: Light pink to peach, medium- to coarse-grained, well-sorted, trace heavy minerals.		SP	5,6,8,12	
30			1.7/2	0.0				7,10,11,14	
35			1.7/2	0.0	SAND: White, fine-grained, well-sorted, trace heavy minerals.		SP	10,12,18,22	
40			2.0/2	0.0	SAND: White to light pink, fine- to coarse-grained, trace heavy minerals.		SW	14,18,24,14	
45			1.5/2	0.0	CLAYEY SAND: Light gray, very fine-grained, trace heavy mineral, mica		SP	8,14,15,12	
50			1.7/2	0.0	CLAYEY SAND: White, very fine-grained, trace heavy minerals.		SP	5,7,12,12	
55							SP		

TITLE: NAS Whiting Field		LOG of WELL: WHF-1466-13	BORING NO. SFF-SB-23
CLIENT: SOUTHNAVFACENGCOM			PROJECT NO: 7518-30
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 5/21/92	COMPLTD: 5/21/92
METHOD: 4.25" HSA	CASE SIZE: 4 inches	SCREEN INT.: 115-130 FT	PROTECTION LEVEL: D
TOC ELEV.: 177.31 FT.	MONITOR INST.: OVA	TOT DPTH: 130FT.	DPTH TO ∇: 118.5 FT.
LOGGED BY: J. Williams/N. Pagano		WELL DEVELOPMENT DATE:	SITE: 1466, South Fuel Farm

DEPTH FT.	LABORATORY SAMPLE ID.	RECOVERY SAMPLE	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
				Continued from PAGE 1				
		1.7/2	0.0	SAND: White, fine- to medium-grained, trace heavy minerals, mica.		SP	12,18,25,28	
60		1.7/2	1.5	CLAYEY SAND: Light gray, fine-grained, trace heavy minerals.		SP	12,8,15,16	
				SAND: Light pink, medium- to coarse-grained, trace heavy minerals.				
65		1.7/2	0.5	SAND: White, fine- to medium-grained, well-sorted, trace heavy minerals, mica.		SP	12,19,30,34	
70		2.0/2	0.5				20,22,20,22	
75		1.5/2	1.0	SAND: White, fine- to medium-grained, well-sorted, trace heavy minerals, mica, with quartz gravel.		SW	19,22,29,34	
80		2.0/2	0.0				25,33,35,41	
85		1.5/2	2.0	SAND: White, fine- to medium-grained, well-sorted, trace heavy minerals.		SP	17,22,28,26	
90		2.0/2	1.0	CLAY: Gray, stiff.		CH	3,4,5,8	
95		1.5/2	N/A	CLAYEY SAND: Light gray, fine- to medium-grained, well-sorted.		SC	Wt. of Rod	
100		1.5/2	1.0	CLAYEY SAND: Light pink and gray, medium- to coarse-grained, moderate to good-sorting, trace heavy minerals.		SC	22,29,29,31	
105		1.9/2	4.0				25,28,34,31	
110						SW		

TITLE: NAS Whiting Field		LOG of WELL: WHF-1466-13	BORING NO. SFF-SB-23
CLIENT: SOUTHNAVFACENGCOM		PROJECT NO: 7518-30	
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 5/21/92	COMPLTD: 5/21/92
METHOD: 4.25" HSA	CASE SIZE: 4 inches	SCREEN INT.: 115-130 FT	PROTECTION LEVEL: D
TOC ELEV.: 177.31 FT.	MONITOR INST.: OVA	TOT DPTH: 130FT.	DPTH TO ∇: 118.5 FT.
LOGGED BY: J. Williams/N. Pagano		WELL DEVELOPMENT DATE:	SITE: 1466, South Fuel Farm

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
Continued from PAGE 2								
		1.7/2	6.0	SAND: Light gray, medium- to coarse-grained, trace heavy minerals, silt.		SW	25,33,50	
115		1.8/2	1.0				31,50	
120		2.0/2	16.0	SAND: Pale orange to tan, medium- to coarse-grained, little very coarse grained sand, trace heavy minerals, mica, wet.		SW	50	
125								
130								
135								
140								
145								
150								
155								
160								
165								

TITLE: NAS Whiting Field		LOG of WELL: WHF-1466-14	BORING NO. SFF-SB-7
CLIENT: SOUTHNAVFACENGCOM		PROJECT NO: 7518-40	
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 5/22/92	COMPLTD: 5/22/92
METHOD: 4.25" HSA	CASE SIZE: 4 inches	SCREEN INT.: 120-135 FT	PROTECTION LEVEL: D
TOC ELEV.: 181.05 FT.	MONITOR INST.: OVA	TOT DPTH: 135 FT.	DPTH TO ∇ 125.2 FT.
LOGGED BY: K. Murray/N. Pagano	WELL DEVELOPMENT DATE:	SITE: 1466, South Fuel Farm	

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
5				NA				POSTHOLE	
			1.5/2	0.2	CLAYEY SAND: Dark brown, very fine- to fine-grained.		SC	4,4,4,3	
10			1.5/2	0.0	SANDY CLAY: Gray, moderate to high plasticity, very fine-grained.				
					SANDY CLAY: Dark brown to tan, very fine- to fine-grained, moderate plasticity.		SC	4,6,4,5	
15			1.0/2	0.0	CLAYEY SAND: Mottled buff to rust, very fine- to medium-grained, low to moderate plasticity.		SC	4,5,5,6	
20			1.0/2	0.0	SAND: Yellow to rust to black, very fine- to fine-grained, moderate- sorting.		SP	8,9,9,14	
25			1.6/2	0.0				4,4,6,5	
30			2.0/2	0.0	SAND: Yellow to rust, very fine- to fine-grained.		SP	12,25,34,42	
35			1.5/2	0.0	SAND: Rust, fine- to medium-grained, well-sorted, sub-rounded, wet.			20,29,37,42	
40			1.8/2	0.0	SAND: Rust, medium- to coarse-grained, very wet.		SW	20,29,33,30	
45			1.5/2	0.0	SAND: Mottled white, orange and red, very fine- to fine-grained, well-sorted, wet.				
					SAND: White, very fine- to fine-grained, well-sorted, damp.		SP	20,29,29,30	
50			1.6/2	0.0	SAND: White to light pink with rust bands, as above.		SP	17,17,18,20	
55							SP		








TITLE: NAS Whiting Field		LOG of WELL: WHF-1466-14	BORING NO. SFF-SB-7
CLIENT: SOUTHNAVFACENGCOM		PROJECT NO: 7518-40	
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 5/22/92	COMPLTD: 5/22/92
METHOD: 4.25" HSA	CASE SIZE: 4 inches	SCREEN INT.: 120-135 FT	PROTECTION LEVEL: D
TOC ELEV.: 181.05 FT.	MONITOR INST.: OVA	TOT DPTH: 135FT.	DPTH TO ∇ 125.2 FT.
LOGGED BY: K. Murray/N. Pagano	WELL DEVELOPMENT DATE:		SITE: 1466, South Fuel Farm

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
Continued from PAGE 1									
		1.6/2	0.0		SAND: Light brown to rust, fine-grained, very well-sorted, damp.		SP	12,12,17,19	
					SAND: Mottled yellow and buff, fine- to medium-grained, moderate- sort, damp.				
60		1.5/2	0.0		SAND: Red-brown, fine- to coarse-grained, poorly-sorted.		SP	11,16,16,15	
					SAND: White to buff, very fine- to fine-grained, well-sorted.				
65							SP		
70			0.5		SAND: Buff to pink to pale yellow, very fine-grained, well-sorted.		SP	19,20,19,20	
75		1.6/2	0.2		SAND: Pink to light brown to buff, very fine- to medium-grained with some quartz pebbles, trace heavy minerals, silt.		SM	15,19,19,17	
80		1.1/2	0.2		SAND: Buff, very fine- to coarse-grained with some very coarse quartz grains.		SW	16,25,25,25	
85		1.8/2	0.2		SAND: White, very fine-grained, well-sorted.		SP	16,25,25,25	
90		1.8/2	0.2		SAND: Buff, very fine-grained, well-sorted, damp.		SP	22,27,27,31	
95		1.4/2	62.0					23,33,33,34	
100		1.8/2	72.5		SAND: Buff to light brown, very fine- to coarse-grained with some quartz gravel.		SW	25,27,37,37	
105		2.0/2	1.5		SAND: Light pink to white, fine-grained.		SP	27,37,46,49	
110							SP		

TITLE: NAS Whiting Field		LOG of WELL: WHF-1466-14	BORING NO. SFF-SB-7
CLIENT: SOUTHNAVFACENGCOM			PROJECT NO: 7518-40
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 5/22/92	COMPLTD: 5/22/92
METHOD: 4.25" HSA	CASE SIZE: 4 inches	SCREEN INT.: 120-135 FT	PROTECTION LEVEL: D
TOC ELEV.: 181.05 FT.	MONITOR INST.: OVA	TOT DPTH: 135FT.	DPTH TO ∇ 125.2 FT.
LOGGED BY: K. Murray/N. Pagano		WELL DEVELOPMENT DATE:	SITE: 1466, South Fuel Farm

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
Continued from PAGE 2								
		1.8/2	4.0	SAND: Buff, very fine-grained, well-sorted, very damp		SP	37,43,50,50	
115		1.4/2	22.0	SAND: White to buff, very fine-grained, very damp.		SP	33,46,64,42	
120		2.0/2	5.0	SAND: White to light pink, medium-grained, well-sorted, very damp.		SP	34,45,45,47	
125		1.8/2	316.0	SAND: Buff, fine- to coarse-grained with quartz pebbles throughout, saturated.		SW	22,28,36,35	
130				SAND: Light brown, fine- to medium-grained, poorly-graded, saturated.		SW		
135		0.8/2	0.0				27,17,17,20	
140								
145								
150								
155								
160								
165								

TITLE: NAS Whiting Field				LOG of WELL: WHF-1466-15		BORING NO. SFF-SB-26	
CLIENT: SOUTHNAVFACENGCOM						PROJECT NO: 7518-30	
CONTRACTOR: Groundwater Protection Inc.				DATE STARTED: 5/22/92		COMPLTD: 5/22/92	
METHOD: 4.25" HSA		CASE SIZE: 4 inches		SCREEN INT.: 119.5-134.5 FT		PROTECTION LEVEL: D	
TOC ELEV.: 177.81 FT.		MONITOR INST.: OVA		TOT DPTH: 135FT.		DPTH TO ▽: 122.7 FT.	
LOGGED BY: J. Williams/N. Pagano		WELL DEVELOPMENT DATE:				SITE: 1466, South Fuel Farm	

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
							POSTHOLE	
5		0.5/2	0.0	CLAY: Orange to red, silty, sandy, poor plasticity.		CL	20,20,25,30	
10		1.1/2	0.0	SAND: Dark orange to red-brown, fine-grained, trace silt, clay.		SM	10,15,17,20	
15		0.2/2	0.0				15,20,22,22	
20		2.0/2	0.0	SAND: Dark orange to pink to light gray, fine- to medium-grained, trace silt, clay and heavy minerals.		SP	15,20,25,30	
25		1.5/2	0.0				16,16,16,20	
30		1.3/2	0.0	SAND: Light orange to light gray, fine- to coarse-grained, trace silt, clay and heavy minerals.		SW	16,17,17,20	
35		1.4/2	0.0				10,10,12,12	
40		1.3/2	0.0	SAND: Light gray to tan, fine- to coarse-grained.		SW	10,10,12,13	
45		1.5/2	0.0	CLAYEY SAND: Orange-red to light gray, low plasticity.		SC	10,12,11,11	
50		1.4/2	0.0	SAND: Light gray to peach, medium- to coarse-grained.		SW	12,15,15,17	
55						SP		

TITLE: NAS Whiting Field		LOG of WELL: WHF-1466-15		BORING NO. SFF-SB-26	
CLIENT: SOUTHNAVFACENGCOM				PROJECT NO: 7518-30	
CONTRACTOR: Groundwater Protection Inc.			DATE STARTED: 5/22/92		COMPLTD: 5/22/92
METHOD: 4.25" HSA		CASE SIZE: 4 inches		SCREEN INT.: 119.5-134.5 FT	
TOC ELEV.: 177.81 FT.		MONITOR INST.: OVA		TPROTECTION LEVEL: D	
TOT DPTH: 135FT.		DEPTH TO ∇: 122.7 FT.			
LOGGED BY: J. Williams/N. Pagano			WELL DEVELOPMENT DATE:		SITE: 1466, South Fuel Farm

DEPTH F.T.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
Continued from PAGE 1								
		1.3/2	0.0	SAND: Buff to light gray, fine- to medium-grained, trace heavy minerals and mica.		SP	10,12,12,14	
60		1.9/2	0.0				15,20,21,21	
65		1.3/2	0.0	SAND: Light orange to light pink to pale yellow to buff, medium- to coarse-grained, trace heavy minerals.		SW	18,20,23,24	
70		1.7/2	1.0	SAND: Light gray to buff, medium- to coarse-grained, trace of very coarse-grained, heavy minerals, and mica.		SW	18,15,18,20	
75		1.1/2	1.5	SAND: Light gray to buff to pink to peach, fine- to coarse-grained, trace silt, heavy minerals, and mica.		SW	15,19,20,21	
80		1.3/2	0.0	SAND: Light pink to pale yellow, medium- to coarse-grained, trace heavy minerals and mica.		SW	17,19,20,20	
85		1.3/2	1.5	SAND: Light gray to buff, medium- to coarse-grained, trace heavy minerals and mica.		SW	18,18,18,20	
90		1.6/2	1.0	SAND: Light gray, fine- to medium-grained, trace heavy minerals and mica.		SP	15,17,20,20	
95		1.4/2	1.0	SAND: Light gray, medium- to coarse-grained, trace heavy minerals and mica.		SP	17,26,27,29	
100		1.3/2	1.0				29,33,35,41	
105		1.4/2	0.0				30,35,35,37	
110								

TITLE: NAS Whiting Field		LOG of WELL: WHF-1466-15	BORING NO. SFF-SB-26
CLIENT: SOUTHNAVACENGCOM		PROJECT NO: 7518-30	
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 5/22/92	COMPLTD: 5/22/92
METHOD: 4.25" HSA	CASE SIZE: 4 inches	SCREEN INT.: 119.5-134.5 FT	PROTECTION LEVEL: D
TOC ELEV.: 177.81 FT.	MONITOR INST.: OVA	TOT DPTH: 135FT.	DPTH TO ∇ 122.7 FT.
LOGGED BY: J. Williams/N. Pagano		WELL DEVELOPMENT DATE:	SITE: 1466, South Fuel Farm

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS Continued from PAGE 2	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
			1.7/2	3.0				29,31,36,40	
115			1.2/2	0.0	SAND: Light gray to buff, fine- to medium-grained, trace heavy minerals and mica.		SP	31,37,37,38	
120			1.4/2	2.0	SAND: Light pink, fine- to medium-grained.		SP	39,42,49,52	
125			2.0/2	10.0	SAND: Light pink, medium- to coarse-grained, trace heavy minerals.		SP	28,28,27,22	
130									
135									
140									
145									
150									
155									
160									
165									

TITLE: NAS Whiting Field				LOG of WELL: WHF-1466-16		BORING NO. SFF-SB-25	
CLIENT: SOUTHNAVFACENGCOM						PROJECT NO: 7518-30	
CONTRACTOR: Groundwater Protection Inc.				DATE STARTED: 5/23/92		COMPLTD: 5/23/92	
METHOD: 4.25" HSA		CASE SIZE: 4 inches		SCREEN INT.: 120-135 FT		PROTECTION LEVEL: D	
TOC ELEV.: 176.49 FT.		MONITOR INST.: OVA		TOT DPTH: 135FT.		DPTH TO ∇ 126.5 FT.	
LOGGED BY: J. Williams/P. Wagner		WELL DEVELOPMENT DATE:				SITE: 1466, South Fuel Farm	

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
5		1.2/2	0.0	FILL: Dark red, silt and gravel fill material.		FILL	9,4,4,3	POSTHOLE
10		1.5/2	0.0	SILT: Dark reddish-brown, small quantity of sand.		MH	4,4,3,3	
15		1.5/2	0.0				4,7,6,5	
20		1.7/2	0.0	SILTY SAND: Peach, fine-grained, well-sorted.		SM	8,9,8,10	
25		1.5/2	0.0	SAND: Pink, medium-grained, well-sorted.		SP	6,7,10,11	
30		1.7/2	0.0	SAND: Pink to peach, coarse-grained, well-sorted, trace heavy minerals.		SP	5,8,11,12	
35		1.7/2	0.0	SAND: Light pink to peach, fine- to coarse-grained, trace heavy minerals.		SW	5,9,12,10	
40		2.0/2	0.0	CLAYEY SAND: Gray to light gray, very fine-grained, well-sorted, trace heavy minerals.		SP	7,8,9,9	
45		1.7/2	0.0	SAND: Gray to light gray, very fine-grained, well-sorted, trace heavy minerals, small lenses of clay.		SP	6,7,8,10	
50		1.7/2	0.0	SAND: Light gray to light pink, very fine-grained, well-sorted, trace heavy minerals.		SP	7,11,11,12	
55								

TITLE: NAS Whiting Field		LOG of WELL: WHF-1466-16	BORING NO. SFF-SB-25
CLIENT: SOUTHNAVFACENGCOM		PROJECT NO: 7518-30	
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 5/23/92	COMPLTD: 5/23/92
METHOD: 4.25" HSA	CASE SIZE: 4 inches	SCREEN INT.: 120-135 FT	PROTECTION LEVEL: D
TOC ELEV.: 176.49 FT.	MONITOR INST.: OVA	TOT DPTH: 135FT.	DPTH TO ∇: 126.5 FT.
LOGGED BY: J. Williams/P. Wagner	WELL DEVELOPMENT DATE:		SITE: 1466, South Fuel Farm

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS Continued from PAGE 1	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
		1.5/2	0.0				6,7,9,11	
60		1.5/2	1.0				11,14,15,19	
65		2.0/2	0.0	CLAYEY SAND: Light gray to light pink, trace heavy mineral, quartz gravel, last 1' stiff clay, light gray to light pink, mica.	---	SC	11,12,15,20	
70		1.5/2	0.0	SAND: Light gray to light pink, fine- to coarse-grained, trace heavy minerals, mica.	•••	SW	10,12,16,19	
75		1.7/2	1.5	SAND: Very light gray, fine- to coarse-grained with some quartz gravel, trace heavy minerals, mica.	•••	SW	13,16,22,24	
80		1.5/2	0.5				7,15,17,23	
85		1.3/2	0.0				10,11,12,17	
90		1.5/2	0.0				11,17,18,23	
95		1.9/2	0.5	SAND: Light gray to peach, fine- to coarse-grained with quartz gravel, trace havy minerals.	•••	SW	9,14,16,20	
100		1.9/2	1.5	SAND: Very light gray to orange-yellow, fine- to coarse-grained with quartz gravel, trace heavy minerals.	•••	SW	14,17,21,22	
105		1.9/2	1.0	SAND: Light pink to peach, fine- to coarse-grained with quartz gravel, trace heavy minerals.	•••	SW	23,29,33,37	
110						SP		

TITLE: NAS Whiting Field		LOG of WELL: WHF-1466-16	BORING NO. SFF-SB-25
CLIENT: SOUTHNAVACENGCOM			PROJECT NO: 7518-30
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 5/23/92	COMPLTD: 5/23/92
METHOD: 4.25" HSA	CASE SIZE: 4 inches	SCREEN INT.: 120-135 FT	PROTECTION LEVEL: D
TOC ELEV.: 176.49 FT.	MONITOR INST.: OVA	TOT DPTH: 135FT.	DPTH TO ∇ 126.5 FT.
LOGGED BY: J. Williams/P. Wagner	WELL DEVELOPMENT DATE:		SITE: 1466, South Fuel Farm

DEPTH FT.	LABORATORY SAMPLE ID.	RECOVERY HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
Continued from PAGE 2							
		1.7/2	1.0	SAND: Very light gray, fine- to very fine-grained with quartz gravel, trace heavy minerals.	• • •	SP	22,28,29,32
115		1.5/2	3.0	SAND: Very light gray, fine-grained, well-sorted, trace heavy minerals.	• • •	SP	32,39,39,42
120		1.7/2	3.5	SAND: Very light gray, fine- to coarse-grained, trace heavy minerals.	• • •	SW	29,36,37,39
125		2.0/2	3.5	SAND: Light pink, medium- to coarse-grained, trace heavy minerals, mica, saturated.	• • •	SW	21,29,31,50
130							
135							
140							
145							
150							
155							
160							
165							

TITLE: NAS Whiting Field		LOG of WELL: WHF-1466-17	BORING NO. SFF-SB-31
CLIENT: SOUTHNAVFACENGCOM			PROJECT NO: 7518-40
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 5/25/92	COMPLTD: 5/25/92
METHOD: 4.25" HSA	CASE SIZE: 4 inches	SCREEN INT.: 119-134 FT	PROTECTION LEVEL: D
TOC ELEV.: 177.91 FT.	MONITOR INST.: OVA	TOT DPTH: 134FT.	DPTH TO ∇ 125.8 FT.
LOGGED BY: T. Winslow/P. Wagner		WELL DEVELOPMENT DATE:	SITE: 1466, South Fuel Farm

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
5		1.5/2	0.0	SAND: Red, silty, fine-grained.		SP	4,4,5,7	
10		1.2/2	0.0	SAND: Pink and white, medium- to coarse-grained.		SP	6,9,10,10	
15		1.0/2	0.0	SAND: White and orange, medium- to coarse-grained.		SP	10,12,12,12	
20		1.2/2	0.0				10,12,12,14	
25		0.3/2	0.0	SAND: Orange and yellow, medium- to coarse-grained.		SP	10,8,9,9	
30		1.2/2	0.0	SAND: Pink, medium- to coarse-grained.		SP	8,10,10,10	
35		1.7/2	0.0	SAND: White, fine-grained.		SP	14,16,20,25	
40		1.7/2	0.0	SAND: White and pink, fine-grained.		SP	6,7,7,2	
45		1.7/2	1.0	SAND: White, fine- to medium-grained.		SP	10,12,12,12	
50		1.7/2	1.0				15,20,19,17	
55			2.0			SP	Wt. of Rod	

TITLE: NAS Whiting Field		LOG of WELL: WHF-1466-17	BORING NO. SFF-SB-31
CLIENT: SOUTHNAVFACENGCOM		PROJECT NO: 7518-40	
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 5/25/92	COMPLTD: 5/25/92
METHOD: 4.25" HSA	CASE SIZE: 4 inches	SCREEN INT.: 119-134 FT	PROTECTION LEVEL: D
TOC ELEV.: 177.91 FT.	MONITOR INST.: OVA	TOT DPTH: 134FT.	DPTH TO ∇ 125.8 FT.
LOGGED BY: T. Winslow/P. Wagner	WELL DEVELOPMENT DATE:		SITE: 1466, South Fuel Farm

DEPTH F.T.	LABORATORY SAMPLE ID.	RECOVERY HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
Continued from PAGE 1							
		1.7/2	SAND: Pink, coarse-grained.		SP		
60		1.5/2				19,20,20,20	
65		1.5/2				10,10,16,18	
70		1.5/2	SAND: White, fine- to medium-grained.		SP	8,8,13,19	
75		1.7/2				15,15,19,20	
80		1.3/2	SAND: White, medium- to coarse-grained.		SP	20,25,33,33	
85		1.7/2				30,48,50,50	
90		1.7/2	SAND: White, fine- to medium-grained.		SP	29,35,35,40	
95		1.7/2	SAND: White and orange, very coarse-grained.		SW	19,20,20,19	
100		0.3/2	SAND: Yellow and pink, medium- to coarse-grained.		SW	23,30,33,31	
105		1.7/2	SAND: Yellow, medium-grained.		SP	30,46,46,50	
110		2.0			SP	31,35,35,37	

TITLE: NAS Whiting Field		LOG of WELL: WHF-1466-17		BORING NO. SFF-SB-31	
CLIENT: SOUTHNAVFACEGCOM				PROJECT NO: 7518-40	
CONTRACTOR: Groundwater Protection Inc.			DATE STARTED: 5/25/92		COMPLTD: 5/25/92
METHOD: 4.25" HSA		CASE SIZE: 4 inches	SCREEN INT.: 119-134 FT	PROTECTION LEVEL: 0	
TOC ELEV.: 177.91 FT.		MONITOR INST.: OVA	TOT DPTH: 134FT.	DPTH TO ∇ 125.8 FT.	
LOGGED BY: T. Winslow/P. Wagner		WELL DEVELOPMENT DATE:		SITE: 1466, South Fuel Farm	

DEPTH FT.	LABORATORY SAMPLE ID.	RECOVERY HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
Continued from PAGE 2							
115		1.7/2	SAND: White and yellow, medium-grained.		SP		
120		1.7/2	SAND: White, medium-grained.		SP	16,16,19,20	
125		1.8/2	SAND: White and orange, medium- to coarse-grained.		SP	Wt. of Rod	
130		2.0/2	SAND: Pink, coarse- to very coarse-grained, saturated.		SW	Wt. of Rod	
135							
140		2.0/2	SAND: Light gray, medium-grained, moderately well-sorted, some heavy minerals and clay, wet.		SP	13,11,11,13	
145		2.0/2				10,10,10,10	
150		1.0/2	SAND: Gray-white, medium-grained, moderately-sorted, some heavy minerals.		SP	14,18,14,14	
155							
160							
165							

TITLE: NAS Whiting Field				LOG of WELL: WHF-1466-18		BORING NO. SFF-SB-10	
CLIENT: SOUTHNAVFACENGCOM						PROJECT NO: 7518-40	
CONTRACTOR: Groundwater Protection Inc.				DATE STARTED: 5/25/92		COMPLTD: 5/25/92	
METHOD: 4.25" HSA		CASE SIZE: 4 inches		SCREEN INT.: 120-135 FT		PROTECTION LEVEL: B,C	
TOC ELEV.: 185.58 FT.		MONITOR INST.: OVA		TOT DPTH: 135FT.		DPTH TO ∇ 122.7 FT.	
LOGGED BY: K. Murray/P. Wagner		WELL DEVELOPMENT DATE:				SITE: 1466, South Fuel Farm	

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
			0.0				POSTHOLE	
5		2.0/2	0.0	SANDY CLAY: Brown to red-brown, fine-grained, moderate to low plasticity.	----	SC	5,8,9,9	
10		2.0/2	0.4	CLAYEY SAND: Brown to red-brown, fine-grained, moderate to low plasticity.	----	SC	5,9,9,10	
15		1.8/2	1.0	CLAYEY SAND: Red, fine-grained, moderate to low plasticity.	----	SC	9,12,12,15	
20		1.6/2	1.6	SAND: Light tan to red-brown, very fine- to coarse-grained, poorly sorted.	•••••	SW	9,10,10,10	
25		1.8/2	0.6	SAND: Light tan to light brown, very fine- to fine-grained, moderately-sorted.	•••••	SP	5,15,20,30	
30		1.3/2	1.0	SAND: Light tan to light red, very fine- to medium-grained, moderately-sorted.	•••••	SW	10,20,20,30	
35		1.0/2	0.0				10,17,20,27	
40		1.8/2	29.4	CLAY: Light gray, high plasticity.	----	CH	9,10,12,12	
45		1.8/2	60.0				20,30,30,32	
50		1.6/2	80.0	CLAYEY SAND: Light gray to light pink.	----	SC	8,7,7,8	
55						SP		

TITLE: NAS Whiting Field		LOG of WELL: WHF-1466-18		BORING NO. SFF-SB-10	
CLIENT: SOUTHNAVACENGCOM				PROJECT NO: 7518-40	
CONTRACTOR: Groundwater Protection Inc.			DATE STARTED: 5/25/92		COMPLTD: 5/25/92
METHOD: 4.25" HSA		CASE SIZE: 4 inches		SCREEN INT.: 120-135 FT	
TOC ELEV.: 185.58 FT.		MONITOR INST.: OVA		PROTECTION LEVEL: B,C	
LOGGED BY: K. Murray/P. Wagner		WELL DEVELOPMENT DATE:		DEPTH TO 122.7 FT.	
				SITE: 1466, South Fuel Farm	

DEPTH FT.	LABORATORY SAMPLE ID.	RECOVERY HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
Continued from PAGE 1							
	1.7/2	10.0	SAND: Light gray, very fine-grained, well-sorted.		SP	8,10,12,12	
60	1.0/2	1.0				NOT OBTAINED	
65	1.2/2	100.0	SAND: Light gray to pink, very fine-grained, well-sorted.		SP	16,28,27,30	
70	1.4/2	1.0	SAND: Gray, fine-grained, well-sorted.		SP	18,22,22,20	
75	1.6/2	12.0	SAND: Light gray to light pink, medium- to coarse-grained with some fine gravel.		SW	20,22,25,30	
80	1.4/2	140.0	SAND: Light gray to buff, medium-grained, well-sorted.		SP	28,25,30,37	
85	1.5/2	>1000	SAND: Buff to pink, fine- to medium-grained with some fine gravel.		SW	20,30,30,30	
90	N/A	N/A				10,12,12,14	
95	N/A	N/A				28,35,40,40	
100	1.5/2	8.0	SAND: Light gray, medium- to coarse-grained, trace fine sand, silt, heavy minerals.		SP	26,28,30	
105	1.7/2	>5000	SAND: White to pink, fine-grained, well-sorted.		SP	29,35,42,43	
110					SP		

TITLE: NAS Whiting Field		LOG of WELL: WHF-1466-18		BORING NO. SFF-SB-10	
CLIENT: SOUTHNAVFACENGCOM				PROJECT NO: 7518-40	
CONTRACTOR: Groundwater Protection Inc.			DATE STARTED: 5/25/92		COMPLTD: 5/25/92
METHOD: 4.25" HSA		CASE SIZE: 4 inches		SCREEN INT.: 120-135 FT	
TOC ELEV.: 185.58 FT.		MONITOR INST.: OVA		PROTECTION LEVEL: B,C	
LOGGED BY: K. Murray/P. Wagner		TOT DPTH: 135FT.		DPTH TO ∇ 122.7 FT.	
WELL DEVELOPMENT DATE:			SITE: 1466, South Fuel Farm		

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
Continued from PAGE 2									
		2.0/2	>5000		SAND: Light pink to peach, fine- to medium-grained.		SP	30,35,35,34	
115		1.5/2	>5000		SAND: Peach to pink, medium- to coarse-grained with some quartz gravel.		SP	30,37,49,50	
120		1.8/2	>5000		SAND: White to orange-yellow, fine- to coarse-grained with some quartz gravel, trace heavy minerals, mica.		SW	Wt. of Rod	
125		1.3/2	>5000		SAND: Orange-yellow, fine- to medium-grained, trace heavy minerals, saturated.		SP	41,49,50,50	
130									
135									
140									
145									
150									
155									
160									
165									

TITLE: NAS Whiting Field				LOG of WELL: WHF-1466-19		BORING NO. SFF-SB-13	
CLIENT: SOUTHNAVFACENGCOM						PROJECT NO: 7518-40	
CONTRACTOR: Groundwater Protection Inc.				DATE STARTED: 5/26/92		COMPLTD: 5/26/92	
METHOD: 4.25" HSA		CASE SIZE: 4 inches		SCREEN INT.: 130-145 FT		PROTECTION LEVEL: D	
TOC ELEV.: 188.81 FT.		MONITOR INST.: OVA		TOT DPTH: 145FT.		DPTH TO ∇: 131.9 FT.	
LOGGED BY: J. Koch/P. Wagner		WELL DEVELOPMENT DATE:				SITE: 1466, South Fuel Farm	

DEPTH F.T.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
				N/A				POSTHOLE	
5			2.0/2	0.0	CLAYEY SAND: Red-brown, fine-grained, trace silt.	— — —	SC	7,8,10,10	
10			0.0/2	N/A	NO RECOVERY			7,12,17,24	
15			1.0/2	0.0	CLAYEY SAND: Light gray, very fine-grained.	— — —	SC	4,9,7,6	
20			1.3/2	0.0	SAND: Light gray to pink, very fine-grained.	. . . . .	SP	12,15,23,27	
25			0.3/2	0.0	SAND: Dark red to black, fine- to medium-grained with hard pan.	. . . . .	SP	33,50	
30			1.3/2	N/A	SAND: Light pink, fine-grained, well-sorted.	. . . . .	SP	11,17,18,19	
35			1.3/2	N/A	SAND: Light pink, fine-grained, well-sorted.	. . . . .	SP	15,23,25,28	
40			1.3/2	0.0	SAND: Light pink to peach, fine- to medium-grained.	. . . . .	SP	14,19,20,22	
45			1.3/2	0.0	SAND: Dark red to black, fine- to medium-grained with hard pan.	. . . . .	SP	26,26,23,21	
50			1.3/2	0.0	SAND: Light pink to peach, fine- to medium-grained, well-sorted.	. . . . .	SP	10,14,16,18	
55						SP		

TITLE: NAS Whiting Field		LOG of WELL: WHF-1466-19	BORING NO. SFF-SB-13
CLIENT: SOUTHNAVACENGCOM			PROJECT NO: 7518-40
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 5/26/92	COMPLTD: 5/26/92
METHOD: 4.25" HSA	CASE SIZE: 4 inches	SCREEN INT.: 130-145 FT	PROTECTION LEVEL: D
TOC ELEV.: 188.81 FT.	MONITOR INST.: OVA	TOT DPTH: 145 FT.	DPTH TO ∇ 131.9 FT.
LOGGED BY: J. Koch/P. Wagner		WELL DEVELOPMENT DATE:	SITE: 1466, South Fuel Farm

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
				Continued from PAGE 1				
		1.3/2	0.0	SAND: Light pink, fine-grained, well-sorted.		SP	14,16,23,28	
80		1.6/2	0.4	SAND: Light pink, fine- to medium-grained, well-sorted.		SP	12,14,16,18	
65		1.5/2	0.2				9,10,11,11	
70		1.5/2	1.5	SAND: Light pink, medium- to coarse-grained.		SW	10,12,17,16	
75		1.5/2	0.4	SAND: Light pink, fine-grained, well-sorted.		SP	11,15,17,21	
80		1.3/2	0.3	SAND: Light pink, fine- to medium-grained.		SP	21,29,36,42	
85		1.3/2	0.2	SAND: Light pink to peach, fine- to medium-grained.		SP	25,42,50	
90		1.5/2	13.0	SAND: Light pink, fine-grained, well-sorted.		SP	15,18,23,30	
95		1.5/2	1.4	SAND: Light pink to peach, fine- to medium-grained.		SP	28,40,50	
100		2.0/2	1.5				17,38,50	
105		1.8/2	1.5	SAND: Light pink to peach, fine- to medium-grained.		SP	22,27,31,42	
110						SW		

TITLE: NAS Whiting Field		LOG of WELL: WHF-1466-19	BORING NO. SFF-SB-13
CLIENT: SOUTHNAVFACENGCOM		PROJECT NO: 7518-40	
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 5/26/92	COMPLTD: 5/26/92
METHOD: 4.25" HSA	CASE SIZE: 4 inches	SCREEN INT.: 130-145 FT	PROTECTION LEVEL: D
TOC ELEV.: 188.81 FT.	MONITOR INST.: OVA	TOT DPTH: 145FT.	DPTH TO ∇: 131.9 FT.
LOGGED BY: J. Koch/P. Wagner	WELL DEVELOPMENT DATE:		SITE: 1466, South Fuel Farm

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
Continued from PAGE 2								
		1.8/2	1.2	SAND: Light pink, fine- to coarse-grained with quartz gravel.		SW	27,35,42,44	
115		0.0/2	N/A	NO RECOVERY			22,24,38,46	
120		0.0/2	N/A	NO RECOVERY			100	
125		1.8/2	6.0	SAND: Light pink, fine- to medium-grained.		SP	32,38,42,46	
130		1.8/2	32.0	SAND: Peach to red, fine- to medium-grained, saturated.		SP	38,50	
135		1.8/2	53.0	SAND: Peach, medium- to coarse-grained, well-sorted, saturated.		SP	NOT OBTAINED	
140								
145								
150								
155								
160								
165								

TITLE: NAS Whiting Field				LOG of WELL: WHF-1466-20		BORING NO. SFF-SB-20	
CLIENT: SOUTHNAVFACENGCOM						PROJECT NO: 7518-30	
CONTRACTOR: Groundwater Protection Inc.				DATE STARTED: 5/26/92		COMPLTD: 5/27/92	
METHOD: 4.25" HSA		CASE SIZE: 4 inches		SCREEN INT.: 125-140 FT		PROTECTION LEVEL: D	
TOC ELEV.: 187.76 FT.		MONITOR INST.: OVA		TOT DPTH: 140FT.		DPTH TO ∇ 131.3 FT.	
LOGGED BY: J. Williams/P. Wagner		WELL DEVELOPMENT DATE:				SITE: 1466, South Fuel Farm	

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
			N.R.				POSTHOLE	
5		1.3/2	0.0	SILTY SANDY CLAY: Red, orange, light gray, low plasticity.		CL	19,22,24,27	
10		1.6/2	0.0	SAND: Orange, fine- to medium-grained, with trace silt, mica and heavy minerals.		SM	5,7,10,8	
15		1.3/2	0.0	SAND: Light orange, peach, fine- to medium-sand, silty, trace heavy minerals, mica, some clayey sand, and streaks of silty clay.		SP	2,5,6,91	
20		1.5/2	0.0	SAND: Light gray, pink to red, medium- to coarse-grained with little very coarse-grained, small gravel, trace mica and heavy minerals.		SW	11,13,11,15	
25		1.4/2	2.0	SAND: Light gray to buff, medium-grained, with trace heavy mineral and mica.		SP	6,7,14,12	
30		1.7/2	0.0				5,10,11,15	
35		1.4/2	0.0	SAND: Light gray to buff, medium- to coarse-grained, trace heavy minerals and mica.		SW	6,8,14,16	
40		1.5/2	2.0	SAND: Light gray to buff, fine- to medium-grained with a trace of coarse- to very coarse-grained, mica, and heavy minerals.		SW	14,20,22,24	
45		1.6/2	2.0	SAND: Light gray, peach, silty to fine-grained, little clay, trace heavy minerals, mica.		SM	8,10,15,17	
50		1.8/2	3.0	SAND: Light gray, fine- to medium-grained, trace very coarse-grained, mica and heavy minerals.		SP	7,10,11,12	
55						SW		

TITLE: NAS Whiting Field		LOG of WELL: WHF-1466-20	BORING NO. SFF-SB-20
CLIENT: SOUTHNAVFACENGCOM			PROJECT NO: 7518-30
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 5/26/92	COMPLTD: 5/27/92
METHOD: 4.25" HSA	CASE SIZE: 4 inches	SCREEN INT.: 125-140 FT	PROTECTION LEVEL: D
TOC ELEV.: 187.76 FT.	MONITOR INST.: OVA	TOT DPTH: 140FT.	DPTH TO ∇ 131.3 FT.
LOGGED BY: J. Williams/P. Wagner	WELL DEVELOPMENT DATE:		SITE: 1466, South Fuel Farm

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
Continued from PAGE 1								
		1.8/2	2.0	SAND: Light pink, peach, light gray, medium- to coarse-grained, trace small gravel, heavy minerals, mica.		SW	10,15,12,14	
60		1.5/2	0.0				8,12,14,13	
65		1.8/2	0.0	SAND: Light gray to buff, medium- to coarse-grained, with trace very coarse-grained, small gravel, mica, and heavy minerals.		SW	12,14,14,18	
70		1.7/2	1.0				14,18,23,34	
75		1.4/2	1.0				12,17,22,28	
80		1.4/2	2.0	SANDY SILTY CLAY: Light gray to pink, trace coarse-grained sand, small gravel, mica.		SC	W.R.12,16	
85		1.5/2	18.0	SAND: Light gray, very fine- to medium-grained, trace mica, heavy minerals.		SP	14,25,35,39	
90		1.2/2	0.0	SAND: Light gray, very fine- to coarse-grained, trace mica and heavy minerals.		SW	19,24,32,50	
95		1.7/2	21.0	SAND: Light gray, medium-grained, well-sorted, trace mica and heavy minerals.		SP	12,22,26,33	
100		1.7/2	0.0				25,34,34,36	
105		1.3/2	2.0	SAND: Light gray, orange to pink, medium- to coarse-grained, trace heavy minerals, mica.		SW	25,32,38,42	
110						SW		

TITLE: NAS Whiting Field		LOG of WELL: WHF-1466-20	BORING NO. SFF-SB-20
CLIENT: SOUTHNAVFACENGCOM			PROJECT NO: 7518-30
CONTRACTOR: Groundwater Protection Inc.		DATE STARTED: 5/26/92	COMPLTD: 5/27/92
METHOD: 4.25" HSA	CASE SIZE: 4 inches	SCREEN INT.: 125-140 FT	PROTECTION LEVEL: D
TOC ELEV.: 187.76 FT.	MONITOR INST.: OVA	TOT DPTH: 140FT.	DPTH TO ∇: 131.3 FT.
LOGGED BY: J. Williams/P. Wagner		WELL DEVELOPMENT DATE:	SITE: 1466, South Fuel Farm

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
Continued from PAGE 2								
		1.5/2	6.0	SAND: As above, with trace large quartz gravel at 112 feet.		SW	24,31,33,40	
115		1.3/2	9.0	SAND: Orange to yellow, fine- to coarse-grained, trace heavy minerals and mica.		SW	22,25,39,50	
120		1.5/2	6.0	SAND: As above, with trace clay.		SW	22,32,46,50	
125		1.7/2	5.0	SAND: Orange, coarse-grained with little medium and very coarse grains, trace small quartz gravel, mica, heavy minerals, clay.		SP	22,34,40,50	
130		1.8/2	20.0	SAND: Light gray, coarse- to very coarse-grained, some small gravel, trace medium-grained sand and heavy minerals, saturated.		SP	12,14,17,28	
135								
140								
145								
150								
155								
160								
165								

TITLE: NAS Whiting Field				LOG of WELL: WHF-1466-2D		BORING NO. SFF-SB-47	
CLIENT: SOUTHNAVFACENGCOM						PROJECT NO: 7518-40	
CONTRACTOR: Groundwater Protection Inc.				DATE STARTED: 5/10/92		COMPLTD: 5/10/92	
METHOD: Mud Rotary		CASE SIZE: 488 inches		SCREEN INT.: 139-144 FT		PROTECTION LEVEL: D	
TOC ELEV.: 190.03 FT.		MONITOR INST.: OVA		TOT DPTH: 144FT.		DPTH TO ∇ 101 FT.	
LOGGED BY: J. Koch		WELL DEVELOPMENT DATE:				SITE: 1466, South Fuel Farm	

DEPTH F.T.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
							POSTHOLE	
5		1.0/2	0.0	CLAYEY SAND: Red to gold, fine-grained.		SC	6,12,13,18	
10		1.2/2	0.0	SAND: Red to tan, trace clay.		SC	6,12,12,15	
15		1.5/2	0.0	SAND: Red to tan, medium-grained, well-sorted.		SP	7,8,8,9	
20		1.0/2	0.0	SAND: Red to brown, fine- to coarse-grained, well-graded.		SW	8,10,12,12	
25		1.8/2	0.0	SAND: Red, very fine-grained to silt. CLAY: Brown, trace silt.		CL	5,6,6,9	
30		1.3/2	0.0	SAND: Tan, medium-grained, well-sorted.		SP	7,7,10,12	
35		1.5/2	0.0	SAND: White, medium-grained, well-sorted.		SP	6,8,11,14	
40		1.8/2	1.0	SAND: White, very fine- to fine-grained.		SP	9,12,12,18	
45		1.8/2	1.0				6,9,9,12	
50		1.0/2	0.0	CLAY: Pink, silty.		CL	9,10,12,15	
55						SP		

TITLE: NAS Whiting Field				LOG of WELL: WHF-1467-1		BORING NO. NFF-SB-4	
CLIENT: SOUTHNAVFACENGCOM						PROJECT NO: 7518-40	
CONTRACTOR: Groundwater Protection				DATE STARTED: 1/7/92		COMPLTD: 1/7/92	
METHOD: HSA		CASE SIZE: 4 inch		SCREEN INT.: 82'-97'		PROTECTION LEVEL: D	
TOC ELEV.: 168.51 FT.		MONITOR INST.: OVA		TOT DPTH: 97FT.		DPTH TO ▽ FT.	
LOGGED BY: M. Jaynes		WELL DEVELOPMENT DATE:				SITE: North Fuel Farm	

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
								POSTHOLE	
5			2.0/2	0.0	CLAYEY SAND: Orange, very fine to fine grained, silt and clay.		SC	6,5,7,8	
10			1.2/2	0.0	SANDY CLAY: Light orange, orange, light gray, mottled, little fine to medium grained, low plasticity.		SC	3,6,11,12	
15			1.5/2	0.0				3,7,14,14	
20			1.7/2	0.0	CLAYEY SAND: Grading to silty sand, orange, very fine to fine grained some to little silt and clay.		SC	9,10,11,12	
25			1.5/2	0.3	SAND: Light gray, fine to medium grained, some very fine grained, silt, trace clay, mica, heavy minerals.		SP	5,5,6,5	
30			1.4/2	0.0	SAND: Light gray, medium to coarse grained, little fine grained, little quartzite gravel, trace mica, heavy minerals.		SW	5,6,9,8	
35			1.3/2	0.4	SAND: Light gray to buff, medium to coarse grained, little very fine grained, some gravel, trace heavy minerals, mica.		SW	10,12,14,14	
40			1.7/2	0.2	SAND: Gray, medium grained, some fine and coarse grained, trace small gravels, mica, heavy minerals, silt.		SW	10,12,15,16	
45			1.5/2	0.6	SAND: Light gray, very fine to fine grained, some medium grained, 2" stringer of sandy silty clay, trace coarse sand, mica, heavy minerals.		SP	11,11,12,12	
50			1.8/2	0.6	SAND: Light gray, fine to coarse grained, trace very coarse grained, heavy mineral, mica, small gravel.		SW	15,17,19,22	
55							SW		

TITLE: NAS Whiting Field		LOG of WELL: WHF-1467-1		BORING NO. NFF-SB-4	
CLIENT: SOUTHNAVFACENGCOM				PROJECT NO: 7518-40	
CONTRACTOR: Groundwater Protection			DATE STARTED: 1/7/92		COMPLTD: 1/7/92
METHOD: HSA		CASE SIZE: 4 inch		SCREEN INT.: 82'-97'	
TOC ELEV.: 188.51 FT.		MONITOR INST.: OVA		TOT DPTH: 97FT.	
LOGGED BY: M. Jaynes		WELL DEVELOPMENT DATE:			SITE: North Fuel Farm

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
Continued from PAGE 1								
		1.4/2	0.6	SAND: Light gray, very coarse grained, trace heavy minerals, mica, gravel.		SW	16,22,24,24	
60		1.4/2	1.0	SAND: Light gray, very fine to coarse grained, trace heavy minerals, mica.		SW	15,19,24,29	
65		1.5/2	0.6	SAND: Fine to medium grained, trace heavy minerals, mica, sorting good.		SP	21,25,28,31	
70		1.4/2	6.7	SAND: Medium grained, well sorted, trace mica, heavy minerals.		SP	35,36,44,50	
75		1.4/2	18.0				31,44,45,48	
80		1.3/2	54.0	SAND: Light gray to buff, fine to medium grained, little coarse to very coarse grained, 1-2" stringers of light pink sandy clay, trace heavy minerals, mica.		SW	29,36,39,44	
85		1.8/2	32.0	SAND: Light gray, medium grained, little very coarse to coarse grained, trace gravel, heavy minerals, mica, wet.		SP	20,22,26,28	
90		2.0/2	-				18,33,50	
95								
100								
105								
110								

TITLE: NAS Whiting Field				LOG of WELL: WHF-1467-2		BORING NO. NFF-SB-13	
CLIENT: SOUTHNAVFACENGCOM						PROJECT NO: 7518-40	
CONTRACTOR: Groundwater Protection				DATE STARTED: 1/08/92		COMPLTD: 1/08/92	
METHOD: HSA		CASE SIZE: 4 inch		SCREEN INT.: 70'-85'		PROTECTION LEVEL: D	
TOC ELEV.: 157.44 FT.		MONITOR INST.: OVA		TOT DPTH: 85FT.		DPTH TO ∇ FT.	
LOGGED BY: M. Jaynes		WELL DEVELOPMENT DATE:				SITE: North Fuel Farm	

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
5		2.0/2	0.0	CLAY: Red, fine grained, silty sand.		CL	3,3,4,3	
10		1.0/2	0.0				6,5,7,6	
15		1.3/2	0.0				6,8,17,20	
20		1.8/2	0.0	SAND: Orange, medium to coarse grained, well-sorted with some silt.		SP	6,5,7,10	
25		1.1/2	0.0				9,11,12,12	
30		1.1/2	0.0	SAND: White, fine to medium grained, well-sorted.		SP	10,11,14,14	
35		1.8/2	0.0	SAND: Orange, white, fine to medium grained, well-sorted, with 6" lens of white clay, very plastic.		SP	2,6,9,12	
40		1.0/2	0.0	SAND: White, medium grained, well-sorted.		SP	12,10,13,11	
45		1.1/2	0.0	SAND: White, pink, fine to medium grained, well-sorted.		SP	12,14,14,14	
50		1.8/2	0.0				11,12,14,15	
55						SP		

TITLE: NAS Whiting Field		LOG of WELL: WHF-1467-2	BORING NO. NFF-SB-13
CLIENT: SOUTHNAVFACENGCOM		PROJECT NO: 7518-40	
CONTRACTOR: Groundwater Protection		DATE STARTED: 1/08/92	COMPLTD: 1/08/92
METHOD: HSA	CASE SIZE: 4 inch	SCREEN INT.: 70'-85'	PROTECTION LEVEL: 0
TOC ELEV.: 157.44 FT.	MONITOR INST.: OVA	TOT DPTH: 85FT.	DPTH TO ▽ FT.
LOGGED BY: M. Jaynes	WELL DEVELOPMENT DATE:		SITE: North Fuel Farm

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
Continued from PAGE 1									
		1.8/2	410.0		SAND: White, orange, medium to coarse grained, well-sorted.		SP	10,10,14,18	
60		2.0/2	50.0					10,10,14,18	
65		1.1/2	0.0		SAND: White, fine to medium grained, well-sorted.		SP	10,12,14,12	
70		1.3/2	90.0					14,20,24,27	
75		1.8/2	50.0		SAND: White, coarse grained, well-sorted, some gravel size quartz.		SP	15,17,17,19	
80		2.0/2	1.0		SAND: Red, medium to coarse grained, well-sorted, some gravel size quartz, saturated.		SP	Wt. of Rod	
85									
90									
95									
100									
105									
110									

TITLE: NAS Whiting Field North Fuel Farm				LOG of WELL: WHF-1467-3		BORING NO. NFF-SB-12	
CLIENT: SOUTHNAVFACENGCOM						PROJECT NO: 7518-40	
CONTRACTOR: Groundwater Protection				DATE STARTED: 1/8/92		COMPLTD: 1/8/92	
METHOD: HSA		CASE SIZE: 4 inch		SCREEN INT.: 80'-95'		PROTECTION LEVEL: D	
TOC ELEV.: 157.25 FT.		MONITOR INST.: OVA		TOT DPTH: 95FT.		DPTH TO ∇ FT.	
LOGGED BY: M. Jaynes		WELL DEVELOPMENT DATE:				SITE: North Fuel Farm	

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
5		0.5/2	0.0	CLAY: Orange with grey streaks, hard.		SC	12,15,15,17	
10		2.0/2	3.0	SAND: Pink, medium grained, loose.		SP	8,10,10,10	
15		2.0/2	0.0	SAND: Pink, dark orange, red and pale gray, layered, fine grained, loose.		SP	10,12,15,15	
20		0.6/2	0.0	SAND: Yellow to orange, medium to coarse grained.		SW	10,10,10,12	
25		1.6/2	4.0	SAND: Gray-brown, medium to large grained, some mica.		SW	8,8,8,10	
30		2.0/2	10.0	SAND: Brown, medium to coarse grained, loose, some mica.		SW	9,10,10,12	
35		2.0/2	15.0				12,14,14,15	
40		2.0/2	37.0	SAND: Same as above with yellow streaks.		SW	14,15,15,16	
45		2.0/2	358.0	SAND: Same as above, no yellow streaks, strong odor.		SW	8,10,10,120	
50		2.0/2	304.0	SAND: Brown and pink, medium to coarse grained.		SW	15,16,18,18	
55			28.0			SW	18,20,20,19	

TITLE: NAS Whiting Field North Fuel Farm		LOG of WELL: WHF-1467-3	BORING NO. NFF-SB-12
CLIENT: SOUTHNAVFACENGCOM			PROJECT NO: 7518-40
CONTRACTOR: Groundwater Protection		DATE STARTED: 1/8/92	COMPLTD: 1/8/92
METHOD: HSA	CASE SIZE: 4 inch	SCREEN INT.: 80'-95'	PROTECTION LEVEL: D
TOC ELEV.: 157.25 FT.	MONITOR INST.: OVA	TOT DPTH: 95FT.	DPTH TO ∇ FT.
LOGGED BY: M. Jaynes	WELL DEVELOPMENT DATE:		SITE: North Fuel Farm

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
Continued from PAGE 1								
		2.0/2		SAND: Brown with dark red bands, fine to coarse grained.		SW		
80		1.7/2	2.0				15,18,18,20	
65		1.0/2	220.0				22,25,25,27	
70		1.6/2	535.0	SAND: Dark red and dark brown, fine to medium grained, strong odor (PCE).		SP	20,20,22,20	
75		1.4/2	20.0				Wt. of Rod	
80		1.4/2	54.0	SAND: Multi-colored, fine to coarse grained, slight odor, wet.		SW	Wt. of Rod	
85		2.0/2	NA				8,8,10,12	
90								
95								
100								
105								
110								

TITLE: NAS Whiting Field				LOG of WELL: WHF-1467-4		BORING NO. NFF-SB-32	
CLIENT: SOUTHNAVFACENGCOM						PROJECT NO: 7518-40	
CONTRACTOR: Groundwater Protection				DATE STARTED: 1/09/92		COMPLTD: 1/09/92	
METHOD: HSA		CASE SIZE: 4 inch		SCREEN INT.: 88'-103'		PROTECTION LEVEL: D	
TOC ELEV.: 174.64 FT.		MONITOR INST.: OVA		TOT DPTH: 103FT.		DPTH TO ▽ FT.	
LOGGED BY: C. Douse		WELL DEVELOPMENT DATE:				SITE: North Fuel Farm	

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
								POSTHOLE
5		1.8/2	0.0	SAND: Light reddish brown, fine grained, silty.		SM	7,4,10,9	
10		1.2/2	0.0	CLAYEY SAND: Tan to reddish brown, fine to coarse grained, silty.		SC	11,9,15,14	
15		1.4/2	0.0	CLAYEY SAND: Reddish brown to pink, fine grained, silty.		SC	2,5,5,5	
20		1.8/2	0.0	CLAYEY SAND: Light reddish brown to pink, fine grained.		SC	4,4,5,5	
25		1.8/2	0.0	SAND: Light to dark pink, red, fine to medium grained, silty.		SM	8,9,8,5	
30		1.6/2	0.0	SAND: Off-white, fine grained, trace heavy mineral, well-sorted.		SP	10,11,16,15	
35		1.4/2	1.0	SAND: Off-white to pink, fine to coarse grained, trace heavy mineral.		SW	9,17,14,10	
40		1.4/2	1.0	SAND: Off-white, pink, orange, fine to coarse grained some quartz gravel, trace heavy mineral.		SW	9,10,16,15	
45		1.2/2	0.0	SAND: Off-white, pink, red, fine to coarse grained some quartz gravel, trace heavy mineral.		SW	8,9,10,12	
50		1.2/2	0.0	SAND: Off-white, fine to medium grained, trace heavy mineral.		SP	10,11,14,17	
55						SP		

TITLE: NAS Whiting Field		LOG of WELL: WHF-1467-4		BORING NO. NFF-SB-32	
CLIENT: SOUTHNAVFACENGCOM				PROJECT NO: 7518-40	
CONTRACTOR: Groundwater Protection			DATE STARTED: 1/09/92		COMPLTD: 1/09/92
METHOD: HSA		CASE SIZE: 4 inch		SCREEN INT.: 88'-103'	
TOC ELEV.: 174.64 FT.		MONITOR INST.: OVA		TOT DPTH: 103FT.	
LOGGED BY: C. Douse		WELL DEVELOPMENT DATE:			SITE: North Fuel Farm

DEPTH FT.	LABORATORY SAMPLE ID.	RECOVERY HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
Continued from PAGE 1							
	1.4/2	2.0	SAND: Off-white, fine grained, well-sorted, trace heavy mineral, mica.		SP	12,14,15,17	
60	1.6/2	0.0	SAND: Off-white, fine to medium grained, trace heavy mineral, mica.		SP	17,16,19,21	
65	1.6/2	10.0	CLAYEY SAND: Light gray to pink, fine to coarse grained.		SC	12,16,17,15	
70	1.4/2	20.0	CLAYEY SAND: Off-white to pink, fine to coarse grained.		SC	10,12,18,20	
75	1.6/2	270.0	SAND: Off-white, fine grained, well-sorted, trace heavy mineral, mica.		SP	19,20,21,26	
80	1.4/2	1.0	SAND: Pink to reddish brown, medium to coarse grained.		SW	29,32,37,38	
85	1.6/2	25.0	SAND: Off-white to pink, very fine grained, well-sorted, trace heavy mineral, small lense of clay.		SP	15,18,34,36	
90	1.4/2	2.0	SAND: Yellow to orange, fine to coarse grained, trace heavy mineral.		SW	12,18,25,26	
95	2.0/2	1.0	CLAYEY SAND: Brown, red, yellow, tan, fine to coarse grained, some quartz gravel, saturated.		SC	5,6,9,12	

TITLE: NAS Whiting Field				LOG of WELL: WHF-1467-6		BORING NO. NFF-SB-34	
CLIENT: SOUTHNAVFACENGCOM						PROJECT NO: 7518-40	
CONTRACTOR: Groundwater Protection				DATE STARTED: 1/10/92		COMPLTD: 1/10/92	
METHOD: HSA		CASE SIZE: 4 inch		SCREEN INT.: 88'-103'		PROTECTION LEVEL: D	
TOC ELEV.: 176.54 FT.		MONITOR INST.: OVA		TOT DPTH: 103FT.		DPTH TO ♀ FT.	
LOGGED BY: C. Douse		WELL DEVELOPMENT DATE:				SITE: North Fuel Farm	

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
							POSTHOLE	
5		1.5/2	0.0	CLAYEY SAND: Orange, fine to medium grained.		SC	1,2,2,3	
10		1.5/2	0.0	CLAYEY SAND: Brick red, fine to medium grained.		SC	5,5,7,8	
15		1.4/2	0.0				3,7,9,10	
20		1.8/2	0.0	CLAYEY SAND: Dark orange over orange over gold, fine to medium grained		SC	7,10,12,10	
25		1.3/2	0.0	SANDY CLAY: Gray, orange, red, mottled, soft, poor plasticity, moist.		SC	5,6,8,9	
30		1.3/2	0.0	SANDY CLAY: Gray, light red, mottled, soft, poor plasticity, low sand content.		SC	3,6,9,11	
35		1.0/2	0.0	SAND: White and pink banded, fine to medium grained, loose, clayey near top.		SC	7,7,6,7	
40		1.3/2	0.0	CLAYEY SAND: White and pink, fine to medium grained, loose.		SC	6,7,8,10	
45		0.8/2	4.0	SAND: White and pink banded, fine to medium grained, loose.		SP	10,11,11,11	
50		0.9/2	5.0				9,10,13,14	
55						SP		

TITLE: NAS Whiting Field		LOG of WELL: WHF-1467-6	BORING NO. NFF-SB-34
CLIENT: SOUTHNAVFACENGCOM		PROJECT NO: 7518-40	
CONTRACTOR: Groundwater Protection		DATE STARTED: 1/10/92	COMPLTD: 1/10/92
METHOD: HSA	CASE SIZE: 4 inch	SCREEN INT.: 88'-103'	PROTECTION LEVEL: D
TOC ELEV.: 176.54 FT.	MONITOR INST.: OVA	TOT DPTH: 103FT.	DPTH TO ▽ FT.
LOGGED BY: C. Douse	WELL DEVELOPMENT DATE:		SITE: North Fuel Farm

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
Continued from PAGE 1									
		1.1/2	0.0		SAND: White with thin black to grey bands, fine grained, loose.		SP	5,7,6,11	
60		1.8/2	0.0		SAND: White, grey near top, fine grained, loose.		SP	7,7,9,11	
65		1.2/2	2.0		SAND: White, fine to medium grained, loose.		SP	10,17,16,15	
70		1.3/2	0.0		CLAYEY SAND: Dark red, gold, yellow, white, all mottled, fine to medium grained.		SC	6,6,8,10	
75		1.5/2	2.5		SAND: Pink, dark red, orange, light yellow, white, tan banded, fine grained, loose.		SP	9,10,12,11	
80		1.2/2	0.0		SAND: White, some shaded pink, very lite, fine grained, loose.		SP	12,15,21,20	
85		1.3/2	0.0		SAND: Red, pink, white banded, fine to coarse grained, loose.		SW	13,22,25,27	
90		1.5/2	2.0		SAND: Dark pink, red, grey, gold, yellow, white banded, fine to coarse grained, over fine grained, loose, fine grain moist.		SW	14,16,14,15	
95		1.0/2	-		SAND: Tan to grey, fine to medium grained, saturated.		SP	7,9,10,9	
100									
105									
110									

TITLE: NAS Whiting Field North Fuel Farm				LOG of WELL: WHF-1467-6D		BORING NO. NFF-SB-3	
CLIENT: SOUTHNAVFACENGCOM						PROJECT NO: 7518-40	
CONTRACTOR: Groundwater Protection				DATE STARTED: 5/24/92		COMPLTD: 5/24/92	
METHOD: Mud Rotary		CASE SIZE: 468 inches		SCREEN INT.: 97'-102'		PROTECTION LEVEL: D	
TOC ELEV.: 166.23 FT.		MONITOR INST.: OVA		TOT DPTH: 102FT.		DPTH TO ▽ FT.	
LOGGED BY: A. Stodghill		WELL DEVELOPMENT DATE:				SITE: North Fuel Farm	

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
			0.0				POSTHOLE	
5		1.0/2	0.0	SILTY SAND: Dark red-brown, fine grained, trace clay.		SM	2,3,4,4	
10		1.5/2	0.0				14,15,21,22	
15		1.5/2	20.0	SAND: Red-brown to gray layers, fine grained.		SM	12,14,14,17	
20		1.5/2	NA	CLAYEY SAND: Light gray, fine grained.		SC	6,8,10,12	
25		0.6/2	20.0	SAND: Light gray, fine to medium grained.		SP	9,10,11,8	
30		0.8/2	46.2				8,9,8,8	
35		0.8/2	37.6	SAND: As above, with quartzitic gravel.		SP	9,11,11,14	
40		1.3/2	398.0	SAND: Red-brown to light gray to white, very fine to medium grained with some quartzitic gravel.		SW	5,9,14,14	
45		0.8/2	952.0				14,14,17,21	
50		0.8/2	675.6				15,20,25,29	
55								

TITLE: NAS Whiting Field North Fuel Farm		LOG of WELL: WHF-1467-6D	BORING NO. NFF-SB-3
CLIENT: SOUTHNAVFACENGCOM			PROJECT NO: 7518-40
CONTRACTOR: Groundwater Protection		DATE STARTED: 5/24/92	COMPLTD: 5/24/92
METHOD: Mud Rotary	CASE SIZE: 488 inches	SCREEN INT.: 97'-102'	PROTECTION LEVEL: D
TOC ELEV.: 166.23 FT.	MONITOR INST.: OVA	TOT DPTH: 102FT.	DPTH TO V. FT.
LOGGED BY: A. Stodghill	WELL DEVELOPMENT DATE:		SITE: North Fuel Farm

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
Continued from PAGE 1								
60		0.8/2	>1000	SAND: Light red-brown to white, fine grained.			14,18,21,23	
		0.8/2	>1000			SP	20,22,26,28	
65		0.8/2	>1000				23,42,44,46	
70		0.8/2	>1000				23,34,36,41	
75		1.0/2		SAND: Dark red-brown to light gray, fine grained.		SP	10,11,13,14	
80		0.0/2	NA	CLAYEY SAND: Light gray to light brown, fine grained, micaceous, wet.			6,5,5,7	
		1.8/2	40			SC	Wt. of Rod	
85								
90		2.0/2	105	CLAY: Light brown to dark gray, stiff, micaceous, wet.		CL	4,6,5,6	
95		2.0/2	3200	SAND: Light brown, fine to medium grained, trace heavy minerals, wet.		SP	10,8,8,14	
		0.5/2	-	SAND: Grayish-orange to yellow brown, fine to coarse grained, some gravel, poorly sorted, quartzitic.		SW	12,24,20,19	
100								
105								
110								

TITLE: NAS Whiting Field				LOG of WELL: WHF-1467-7		BORING NO. NFF-SB-13	
CLIENT: SOUTHNAVFACENGCOM						PROJECT NO: 7518-40	
CONTRACTOR: Groundwater Protection				DATE STARTED: 1/11/92		COMPLTD: 1/11/92	
METHOD: HSA		CASE SIZE: 4 inch		SCREEN INT.: 70'-85'		PROTECTION LEVEL: D	
TOC ELEV.: 157.48 FT.		MONITOR INST.: OVA		TOT DPTH: 85FT.		DPTH TO ∇ FT.	
LOGGED BY: C. Douse		WELL DEVELOPMENT DATE:				SITE: North Fuel Farm	

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
							POSTHOLE	
5		2.0/2	0.0	CLAY: Red, fine grain, silty sand.		CL	3,3,4,3	
10		1.0/2	0.0				6,5,7,6	
15		1.3/2	0.0				6,8,17,20	
20		1.8/2	0.0	SAND: Orange, medium to coarse grained, well-sorted with some silt.		SP	6,5,7,10	
25		1.1/2	0.0				9,11,12,12	
30		1.1/2	0.0	SAND: White, fine to medium grained, well-sorted.		SP	10,11,14,14	
35		1.8/2	0.0	SAND: Orange, white, fine to medium grained, well-sorted, with 6" lens of white clay, very plastic.		SP	2,6,9,12	
40		1.0/2	0.0	SAND: White, medium grained, well-sorted.		SP	12,10,13,11	
45		1.1/2	0.0	SAND: White, pink, fine to medium grained, well-sorted.		SP	12,14,14,14	
50		1.8/2	0.0				11,12,14,15	
55						SP		

TITLE: NAS Whiting Field		LOG of WELL: WHF-1467-7	BORING NO. NFF-SB-13
CLIENT: SOUTHNAVFACENGCOM			PROJECT NO: 7518-40
CONTRACTOR: Groundwater Protection		DATE STARTED: 1/11/92	COMPLTD: 1/11/92
METHOD: HSA	CASE SIZE: 4 inch	SCREEN INT.: 70'-85'	PROTECTION LEVEL: D
TOC ELEV.: 157.48 FT.	MONITOR INST.: OVA	TOT DPTH: 85FT.	DPTH TO ∇ FT.
LOGGED BY: C. Douse	WELL DEVELOPMENT DATE:		SITE: North Fuel Farm

DEPTH F.T.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
Continued from PAGE 1								
		1.8/2	410.0	SAND: White, orange, medium to coarse grained, well-sorted.		SP	10,10,14,18	
60		2.0/2	50.0				10,10,14,18	
65		1.1/2	0.0	SAND: White, fine to medium grained, well-sorted.		SP	10,12,14,12	
70		1.3/2	90.0				14,20,24,27	
75		1.8/2	50.0	SAND: White, coarse grained, well-sorted, some gravel size quartz.		SP	15,17,17,19	
80		2.0/2	1.0	SAND: Red, medium to coarse grained, well-sorted, some gravel size quartz, saturated.		SP	Wt. of Rod	
85								
90								
95								
100								
105								
110								

TITLE: NAS Whiting Field North Fuel Farm		LOG of WELL: WHF-1467-7D	BORING NO. NFF-SB-12
CLIENT: SOUTHNAVFACENGCOM			PROJECT NO: 7518-40
CONTRACTOR: Groundwater Protection		DATE STARTED: 5/23/92	COMPLTD: 5/23/92
METHOD: Mud Rotary	CASE SIZE: 4&8 inches	SCREEN INT.: 124'-129'	PROTECTION LEVEL: D
TOC ELEV.: 158.18 FT.	MONITOR INST.: OVA	TOT DPTH: 129FT.	DPTH TO ∇ FT.
LOGGED BY: P. Wagner	WELL DEVELOPMENT DATE:		SITE: North Fuel Farm

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
5		0.5/2	0.0	CLAY: Orange with grey streaks, hard.		CL	12,15,15,17	
10		2.0/2	3.0	SAND: Pink, medium grained, loose.		SP	8,10,10,10	
15		2.0/2	0.0	SAND: Pink, dark orange, red and pale gray, layered, fine grained, loose.		SP	10,12,15,15	
20		0.8/2	0.0	SAND: Yellow to orange, medium to coarse grained.		SW	10,10,10,12	
25		1.6/2	4.0	SAND: Gray-brown, medium to large grained, some mica.		SW	8,8,8,10	
30		2.0/2	10.0	SAND: Brown, medium to coarse grained, loose, some mica.		SW	9,10,10,12	
35		2.0/2	15.0				12,14,14,15	
40		2.0/2	37.0	SAND: Same as above with yellow streaks.		SW	14,15,15,16	
45		2.0/2	358.0	SAND: Same as above, no yellow streaks, strong odor.		SW	8,10,10,120	
50		2.0/2	304.0	SAND: Brown and pink, medium to coarse grained.		SW	15,16,18,18	
55			28.0			SW	18,20,20,19	

TITLE: NAS Whiting Field North Fuel Farm		LOG of WELL: WHF-1467-7D	BORING NO. NFF-SB-12
CLIENT: SOUTHNAVFACENGCOM		PROJECT NO: 7518-40	
CONTRACTOR: Groundwater Protection		DATE STARTED: 5/23/92	COMPLTD: 5/23/92
METHOD: Mud Rotary	CASE SIZE: 488 inches	SCREEN INT.: 124'-129'	PROTECTION LEVEL: D
TOC ELEV.: 158.18 FT.	MONITOR INST.: OVA	TOT DPTH: 129 FT.	DPTH TO ∇ FT.
LOGGED BY: P. Wagner	WELL DEVELOPMENT DATE:		SITE: North Fuel Farm

DEPTH F.T.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
Continued from PAGE 1								
		2.0/2		SAND: Brown with dark red bands, fine to coarse grained.		SW		
60		1.7/2	2.0				15,18,18,20	
65		1.0/2	220.0				22,25,25,27	
70		1.6/2	535.0	SAND: Dark red and dark brown, fine to medium grained, strong odor (PCE).		SP	20,20,22,20	
75		1.4/2	20.0				Wt. of Rod	
80		1.4/2	54.0	SAND: Multi-colored, fine to coarse grained, slight odor, wet.		SW	Wt. of Rod	
85		2.0/2	NA				8,8,10,12	
95				CLAY				
100		2.0/2	-	CLAY: Light grey to yellow brown mottled, micaceous.		CL	- ,25,27,28	
105								
110								

TITLE: NAS Whiting Field North Fuel Farm		LOG of WELL: WHF-1467-7D		BORING NO. NFF-SB-12	
CLIENT: SOUTHNAVFACENGCOM				PROJECT NO: 7518-40	
CONTRACTOR: Groundwater Protection			DATE STARTED: 5/23/92		COMPLTD: 5/23/92
METHOD: Mud Rotary		CASE SIZE: 488 inches		SCREEN INT.: 124'-129'	
TOC ELEV.: 158.18 FT.		MONITOR INST.: OVA		TOT DPTH: 129FT.	
LOGGED BY: P. Wagner		WELL DEVELOPMENT DATE:			SITE: North Fuel Farm

DEPTH F.T.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS Continued from PAGE 2	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
115					CLAY				
120					CLAY				
125					SANDY CLAY				
130			0.9/2	-	SAND: Brown, medium grained, moderate to well-sorted.		SP	41,54,41,33	
135									
140									
145									
150									
155									
160									
165									

TITLE: NAS Whiting Field				LOG of WELL: WHF-1467-8		BORING NO. NFF-SB-37	
CLIENT: SOUTHNAVFACENGCOM						PROJECT NO: 7518-40	
CONTRACTOR: Groundwater Protection				DATE STARTED: 1/11/92		COMPLTD: 1/11/92	
METHOD: HSA		CASE SIZE: 4 inch		SCREEN INT.: 92'-107'		PROTECTION LEVEL: D	
TOC ELEV.: 173.24 FT.		MONITOR INST.: OVA		TOT DPTH: 107FT.		DPTH TO ▽ FT.	
LOGGED BY: R. White		WELL DEVELOPMENT DATE:				SITE: North Fuel Farm	

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
							POSTHOLE	
5		1.2/2	0.0	CLAYEY SAND: Reddish orange, fine to medium grained, high sand content		SC	1,1,1	
10		1.4/2	0.0				4,4,4,3	
15		1.3/2	0.0	CLAYEY SAND: Red, orange mottled, silty clay, poor plasticity.		SC	4,14,13,14	
20		1.1/2	0.0	CLAYEY SAND: Pinkish white, very fine grained.		SC	7,6,8,8	
25		1.2/2	0.0	SAND: Orange and white, fine to medium grained.		SP	6,17,19,21	
30		1.4/2	0.0				12,15,24,27	
35		1.2/2	0.0	SAND: Orange and white, fine to medium grained, some quartzitic pebbles.		SP	7,8,14,14,	
40		1.6/2	0.0	SAND: White, very fine grained, trace heavy mineral.		SP	7,6,6,7	
45		1.3/2	0.0	SAND: White, red, fine to medium grained, 1" sandy clay stringer in middle, some quartzitic pebbles.		SP	10,9,10,17	
50		1.6/2	0.0	SAND: White, very fine to fine grained.		SP	9,9,10,14	
55						SP		

TITLE: NAS Whiting Field		LOG of WELL: WHF-1467-8	BORING NO. NFF-SB-37
CLIENT: SOUTHNAVFACENGCOM			PROJECT NO: 7518-40
CONTRACTOR: Groundwater Protection		DATE STARTED: 1/11/92	COMPLTD: 1/11/92
METHOD: HSA	CASE SIZE: 4 inch	SCREEN INT.: 92'-107'	PROTECTION LEVEL: D
TOC ELEV.: 173.24 FT.	MONITOR INST.: OVA	TOT DPTH: 107FT.	DPTH TO ∇ FT.
LOGGED BY: R. White	WELL DEVELOPMENT DATE:		SITE: North Fuel Farm

DEPTH F.T.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
Continued from PAGE 1								
		1.5/2	0.0	SAND: White, very fine to fine grained, trace heavy mineral.		SP	12,12,16,15	
60		1.5/2	0.0	SAND: White, fine to medium grained, 8" over clay, gray, very soft, good plasticity 5", over sand, white, fine to medium grained.		CH	5,4,16,17	
65		1.5/2	0.0	CLAY: Gray, very soft, good plasticity, 5" over sand, white, fine to medium grained.		CH	27,29,25,27	
70		1.5/2	0.0	SAND: Red, orange, gold, white banded, mottled, fine to coarse grained some quartzitic pebbles.		SW	18,22,24,27	
75		1.3/2	0.0				13,12,11,18	
80		0.9/2	0.0	SAND: White, fine to medium grained a few quartzitic pebbles.		SP	18,21,25,28	
85		1.1/2	0.0	SAND: White, fine to medium grained.		SP	27,31,49,50	
90		1.0/2	0.0	SAND: White, fine to medium grained, some quartzitic pebbles.		SP	20,30,30,30	
95		1.1/2	0.0	CLAYEY SAND: White, fine to medium grained, trace heavy mineral, wet.		SC	21,20,22,28	
100		2.0/2	3.0	SAND: White, red, gold, fine to medium grained, saturated.		SP	28,27,27,36	
105								
110								

TITLE: NAS Whiting Field				LOG of WELL: WHF-1467-8D		BORING NO. NFF-SB-4	
CLIENT: SOUTHNAVFACENGCOM						PROJECT NO: 7518-40	
CONTRACTOR: Groundwater Protection				DATE STARTED: 5/22/92		COMPLTD: 5/22/92	
METHOD: Mud Rotary		CASE SIZE: 468 inches		SCREEN INT.: 112'-127'		PROTECTION LEVEL: D	
TOC ELEV.: 168.85 FT.		MONITOR INST.: OVA		TOT DPTH: 127FT.		DPTH TO ∇ FT.	
LOGGED BY: A. Stodghill		WELL DEVELOPMENT DATE:				SITE: North Fuel Farm	

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
5		2.0/2	0.0	CLAYEY SAND: Orange, very fine to fine grained, silt and clay.		SC	6,5,7,8	POSTHOLE
10		1.2/2	0.0	SANDY CLAY: Light orange, orange, light gray, mottled, little fine to medium grained, low plasticity.		SC	3,6,11,12	
15		1.5/2	0.0				3,7,14,14	
20		1.7/2	0.0	CLAYEY SAND: Grading to silty sand, orange, very fine to fine grained some to little silt and clay.		SC	9,10,11,12	
25		1.5/2	0.3	SAND: Light gray, fine to medium grained, some very fine grained, silt, trace clay, mica, heavy minerals.		SP	5,5,6,5	
30		1.4/2	0.0	SAND: Light gray, medium to coarse grained, little fine grained, little quartzite gravel, trace mica, heavy minerals.		SW	5,6,9,8	
35		1.3/2	0.4	SAND: Light gray to buff, medium to coarse grained, little very fine grained, some gravel, trace heavy minerals, mica.		SW	10,12,14,14	
40		1.7/2	0.2	SAND: Gray, medium grained, some fine and coarse grained, trace small gravels, mica, heavy minerals, silt.		SW	10,12,15,16	
45		1.5/2	0.6	SAND: Light gray, very fine to fine grained, some medium grained, 2" stringer of sandy silty clay, trace coarse sand, mica, heavy minerals.		SP	11,11,12,12	
50		1.8/2	0.6	SAND: Light gray, fine to coarse grained, trace very coarse grained, heavy mineral, mica, small gravel.		SW	15,17,19,22	
55						SW		

TITLE: NAS Whiting Field		LOG of WELL: WHF-1467-8D	BORING NO. NFF-SB-4
CLIENT: SOUTHNAVFACENGCOM			PROJECT NO: 7518-40
CONTRACTOR: Groundwater Protection		DATE STARTED: 5/22/92	COMPLTD: 5/22/92
METHOD: Mud Rotary	CASE SIZE: 488 inches	SCREEN INT.: 112'-127'	PROTECTION LEVEL: D
TOC ELEV.: 168.85 FT.	MONITOR INST.: OVA	TOT DPTH: 127FT.	DPTH TO ∇ FT.
LOGGED BY: A. Stodghill	WELL DEVELOPMENT DATE:		SITE: North Fuel Farm

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
Continued from PAGE 1								
		1.4/2	0.6	SAND: Light gray, very coarse grained, trace heavy minerals, mica, gravel.		SW	16,22,24,24	
60		1.4/2	1.0	SAND: Light gray, very fine to coarse grained, trace heavy minerals, mica.		SW	15,19,24,29	
65		1.5/2	0.6	SAND: Fine to medium grained, trace heavy minerals, mica, sorting good.		SP	21,25,28,31	
70		1.4/2	6.7	SAND: Medium grained, well sorted, trace mica, heavy minerals.		SP	35,36,44,50	
75		1.4/2	18.0				31,44,45,48	
80		1.3/2	54.0	SAND: Light gray to buff, fine to medium grained, little coarse to very coarse grained, 1-2" stringers of light pink sandy clay, trace heavy minerals, mica.		SP	29,36,39,44	
85		1.8/2	32.0	SAND: Light gray, medium grained, little very coarse to coarse grained, trace gravel, heavy minerals, mica, wet.		SP	20,22,26,28	
90		2.0/2	-				18,33,50	
95								
100								
105								
110								

TITLE: NAS Whiting Field		LOG of WELL: WHF-1467-8D	BORING NO. NFF-SB-4
CLIENT: SOUTHNAVFACENGCOM		PROJECT NO: 7518-40	
CONTRACTOR: Groundwater Protection		DATE STARTED: 5/22/92	COMPLTD: 5/22/92
METHOD: Mud Rotary	CASE SIZE: 4&8 inches	SCREEN INT.: 112'-127'	PROTECTION LEVEL: D
TOC ELEV.: 188.85 FT.	MONITOR INST.: OVA	TOT DPTH: 127FT.	DPTH TO ∇ FT.
LOGGED BY: A. Stodghill	WELL DEVELOPMENT DATE:		SITE: North Fuel Farm

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
Continued from PAGE 2									
115			1.5/2		SANDY CLAY: Light grey to yellowish grey, mottled. SAND: Light brown, medium to fine grained, trace clay.			5,8,48,50	
120									
125									
130									
135									
140									
145									
150									
155									
160									
165									

TITLE: NAS Whiting Field				LOG of WELL: WHF-1467-9		BORING NO. NFF-SB-35	
CLIENT: SOUTHNAVFACENGCOM						PROJECT NO: 7518-30	
CONTRACTOR: Groundwater Protection				DATE STARTED: 1/12/92		COMPLTD: 1/12/92	
METHOD: HSA		CASE SIZE: 4 inch		SCREEN INT.: 85'-100'		PROTECTION LEVEL: D	
TOC ELEV.: 162.99 FT.		MONITOR INST.: OVA		TOT DPTH: 100FT.		DPTH TO ∇ FT.	
LOGGED BY: R. White		WELL DEVELOPMENT DATE:				SITE: North Fuel Farm	

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
5		1.4/2	0.0	SANDY CLAY: Red, orange, grey mottled, hard, moderate plasticity.	---	SC	9,12,12,15	POSTHOLE
10		2.0/2	0.0	CLAYEY SAND: Orange, light red, fine to medium grained, little cohesivness, hard, moderate plasticity.	---	SC	6,8,7,7	
15		1.0/2	0.0	SAND: Light red, orange, yellow, white banded, fine to medium grained with some coarse, loose, quartzitic pebbles throughout.	••••	SW	2,4,5,5	
20		1.0/2	0.0	CLAYEY SAND: Beige, orange mottled clay over clayey sand, light red, light orange, yellow banded fine to medium grained with quartzitic pebbles throughout.	---	SC	5,4,6,4	
25		1.3/2	0.0	SAND: White, red banded over red to pink, over white, fine to coarse grained with quartzitic pebbles, loose.	••••	SW	6,6,9,9	
30		1.5/2	0.0	SAND: Light red over white, fine to coarse grained, quartzitic pebbles trace heavy mineral, loose.	••••	SW	8,10,13,13	
35		1.3/2	0.0	SAND: Orange, pink, light red, light yellow banded, fine to medium grained, large quartzitic pebbles, loose.	••••	SP	6,11,10,13	
40		1.4/2	0.0	SAND: Pink over white, fine to medium grained, loose.	••••	SP	8,10,15,15	
45		1.1/2	0.0	SAND: White, fine to coarse grained with some quartzitic pebbles, loose.	••••	SW	10,9,9,13	
50		1.4/2	0.0	SAND: White to light yellow, fine to medium grained, loose.	••••	SP	14,17,15,16	
55						SP		

TITLE: NAS Whiting Field		LOG of WELL: WHF-1467-9	BORING NO. NFF-SB-35
CLIENT: SOUTHNAVFACENGCOM		PROJECT NO: 7518-30	
CONTRACTOR: Groundwater Protection		DATE STARTED: 1/12/92	COMPLTD: 1/12/92
METHOD: HSA	CASE SIZE: 4 inch	SCREEN INT.: 85'-100'	PROTECTION LEVEL: D
TOC ELEV.: 162.99 FT.	MONITOR INST.: OVA	TOT DPTH: 100FT.	DPTH TO ▽ FT.
LOGGED BY: R. White	WELL DEVELOPMENT DATE:		SITE: North Fuel Farm

DEPTH F.T.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
Continued from PAGE 1								
		1.2/2	0.0	SAND: Pale yellow, fine to medium grained, some quartzitic pebbles loose.		SP	11,12,19,16	
60		1.2/2	0.0	CLAYEY SAND: Yellow, pink, over sand, white, fine to medium grained over fine grained.		SP	16,15,19,19	
65		1.1/2	0.0	SAND: White, fine to medium grained.		SP	19,19,27,30	
70		1.5/2	0.0				15,19,21,23	
75		1.5/2	0.0				27,28,36,31	
80		1.4/2	0.0				17,27,28,23	
85		1.7/2	0.0	SAND: White, fine grained, slight heavy minerals, wet.		SP	25,24,28,20	
90		2.0/2	0.0	SAND: Pinkish white, fine to coarse grained, saturated.		SW	WOR,29	
95								
100								
105								
110								

TITLE: NAS Whiting Field				LOG of WELL: WHF-1467-10				BORING NO. NFF-SB-56			
CLIENT: SOUTHNAVFACENGCOM								PROJECT NO: 7518-40			
CONTRACTOR: Groundwater Protection, Inc.						DATE STARTED: 1/25/92				COMPLTD: 1/25/92	
METHOD: 6.25" HSA				CASE SIZE: 4 inch		SCREEN INT.: 75'-90'		PROTECTION LEVEL: D			
TOC ELEV.: FT.				MONITOR INST.: OVA		TOT DPTH: 89.10FT.		DPTH TO ▽ 82.29 FT.			
LOGGED BY: C. King				WELL DEVELOPMENT DATE: 2/26/92				SITE: 1467			
DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA			
5		2.0/2	0.0	SANDY CLAY: Reddish-orange, fine-grained, moderate clay content, damp.	---	SC	3,7,7,7	POSTHOLE			
10		1.5/2	0.0				8,15,14,14				
15		1.7/2	0.0	SANDY CLAY: Orange-brown, fine- to medium-grained, low clay content.	---	SC	10,9,9,9				
20		1.0/2	0.0	SAND: Pink-white with yellow band in bottom 3" of spoon, fine- to medium-grained with coarse grains, some gravel throughout spoon.	•••	SW	7,7,6,7				
25		1.5/2	0.0	SAND: Off-white to white, fine-grained with some coarse grains and gravel, yellow-brown in top 6" of spoon.	•••	SW	6,7,7,8				
30		1.5/2	0.0	SAND: Off-white to white, fine- to medium-grained with fine- to medium-grained, yellow-brown in bottom 4" of spoon.	•••	SP	5,6,7,9				
35		1.3/2	0.0	SAND: Light pink to off-white, fine- to medium-grained, with some coarse grains.	•••	SP	2,10,12,13				
40		1.5/2	0.0	SAND: Off-white to light gray, fine- to medium-grained.	•••	SP	10,12,15,15				
45		1.0/2	0.0	SANDY CLAY: Reddish-pink, fine-grained, low clay content.	---	SC	16,9,9,11				
50						SP					

TITLE: NAS Whiting Field		LOG of WELL: WHF-1467-10		BORING NO. NFF-SB-56	
CLIENT: SOUTHNAVFACENGCOM				PROJECT NO: 7518-40	
CONTRACTOR: Groundwater Protection, Inc.			DATE STARTED: 1/25/92		COMPLTD: 1/25/92
METHOD: 6.25" HSA		CASE SIZE: 4 inch		SCREEN INT.: 75'-90'	
TOC ELEV.: FT.		MONITOR INST.: OVA		TOT DPTH: 89.10FT.	
LOGGED BY: C. King		WELL DEVELOPMENT DATE: 2/26/92			SITE: 1467

DEPTH F.T.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS Continued from PAGE 1	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
55		1.5/2	0.0	SAND: Off-white to white, fine- to medium-grained.		SP	12,14,15,14	
		1.7/2	0.0				19,20,23,26	
60		1.5/2	0.0	SAND: Off-white to white, fine- to medium-grained.		SP	18,19,22,29	
65		1.5/2	0.0	SAND: Red-pink to dark pink, fine- to medium-grained.		SP	12,14,20,22	
70		1.7/2	0.0	SAND: Dark pink with streaks of off-white, fine to medium with coarse grains throughout, damp.		SW	Wt. of Rod	
75		2.0/2	0.0	CLAY: Red-gray, soft, very plastic.		CH	Wt. of Rod	
80		1.5/2	0.0	CLAY: Red-gray, stiff 1', dark pink to red-pink sand, fine- to medium- grained in remainder of spoon.		CH	Wt. of Rod	
85		1.5/2	G.C.	SAND: Light tan, silty to very fine-grained with some medium grains, saturated.		SM	20,21,28,25	
95		2.0/2	G.C.	SAND: Light tan, silty to very fine-grained with some medium grains, saturated.		SP	8,10,9,8	
100								

TITLE: NAS Whiting Field North Fuel Farm				LOG of WELL: WHF-1467-11		BORING NO. NFF-SB-57	
CLIENT: SOUTHNAVFACENGCOM						PROJECT NO: 7518-30	
CONTRACTOR: Groundwater Protection				DATE STARTED: 1/25/92		COMPLTD: 1/25/92	
METHOD: HSA		CASE SIZE: 4 inch		SCREEN INT.: 75'-90'		PROTECTION LEVEL: D	
TOC ELEV.: 156.49 FT.		MONITOR INST.: OVA		TOT DPTH: 90FT.		DPTH TO ∇ 81.5 FT.	
LOGGED BY: J. Koch		WELL DEVELOPMENT DATE:				SITE: North Fuel Farm	

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
							POSTHOLE	
5		2.0/2	0.0	SAND: Reddish-brown, very fine grained, silty.		SP	1,2,2,2	
10		1.6/2	0.0	CLAYEY SAND: Reddish-brown, very fine grained, low plasticity, silty.		SC	6,7,5,4	
15		1.6/2	0.0	SAND: Peach, fine to coarse grained with some quartz gravel, silty		SW	5,7,7,7	
20		2.0/2	0.0	SAND: Pink to peach, fine to coarse grained with some quartz gravel, poorly sorted.		SW	5,7,5,6	
25		1.6/2	0.0	SAND: Pink, low plasticity, some clay.		SW	3,6,4,7	
30		1.6/2	0.0	SAND: Light pink, fine to coarse grained with some quartzitic gravel, trace heavy minerals.		SW	6,9,11,10	
35		1.2/2	0.0	SAND: Peach, fine to coarse grained with some quartzitic gravel, trace heavy minerals.		SW	6,12,12,13	
40		1.6/2	0.0				7,11,15,16	
45		1.6/2	1.0	SAND: Light pink to yellow, fine to medium grained, trace heavy minerals.		SP	7,12,13,14	
50						SP		

TITLE: NAS Whiting Field North Fuel Farm		LOG of WELL: WHF-1467-11	BORING NO. NFF-SB-57
CLIENT: SOUTHNAVFACENGCOM			PROJECT NO: 7518-30
CONTRACTOR: Groundwater Protection		DATE STARTED: 1/25/92	COMPLTD: 1/25/92
METHOD: HSA	CASE SIZE: 4 inch	SCREEN INT.: 75'-90'	PROTECTION LEVEL: D
TOC ELEV.: 158.49 FT.	MONITOR INST.: OVA	TOT DPTH: 90FT.	DPTH TO ∇ 81.5 FT.
LOGGED BY: J. Koch	WELL DEVELOPMENT DATE:		SITE: North Fuel Farm

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
Continued from PAGE 1								
		1.6/2	0.0	SAND: Off-white, very fine to fine grained, trace heavy minerals, well-sorted.		SP	10,16,20,19	
55		1.6/2	0.0				8,10,16,17	
60		1.6/2	0.0	SAND: Orange-brown, medium to coarse grained, poorly sorted, some quartzitic gravel, trace heavy minerals.		SW	5,11,14,12	
65		2.0/2	0.0	SAND: Yellow, peach, red mottled, very fine to fine grained, well-sorted, trace heavy minerals.		SP	5,10,16,11	
70		2.0/2	0.0	SAND: Yellow, peach, red mottled, very fine to fine grained, well-sorted, trace heavy minerals.		SP	6,8,8,12	
75		2.0/2	0.0	SAND: Light pink to orange, fine to medium grained, trace heavy minerals, mica.		SP	11,11,11,11	
80		2.0/2	3.0	SAND: Off-white, fine grained, well-sorted, trace heavy minerals, damp.		SP	8,8,12,9	
85		2.0/2	0.0				11,8,4,5	
90		2.0/2	0.0	SAND: Lght orange-brown, fine grained, well-sorted, saturated.		SP	4,6,7,7	
95								
100								

TITLE: NAS Whiting Field				LOG of WELL: WHF-1467-12		BORING NO. NFF-SB-55	
CLIENT: SOUTHNAVFACENGCOM						PROJECT NO: 7518-40	
CONTRACTOR: Groundwater Protection, Inc.				DATE STARTED: 1/27/92		COMPLTD: 1/27/92	
METHOD: 6.25" HSA		CASE SIZE: 4 inch		SCREEN INT.: 68'-83';98'-100'		PROTECTION LEVEL: D	
TOC ELEV.: FT.		MONITOR INST.: OVA		TOT DPTH: 106.55FT.		DPTH TO ▽: 82.65 FT.	
LOGGED BY: C. King		WELL DEVELOPMENT DATE: 2/27/92				SITE: 1467	

DEPTH FT.	LABORATORY SAMPLE ID.	RECOVERY HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
						POSTHOLE	
5		2.0/2	0.0	CLAYEY SAND: Light gray, very fine-grained, low plasticity.	SC	3,3,3,4	
10		2.0/2	1.0	CLAYEY SAND: Reddish-brown to gray, very fine-grained, silty.	SC	5,12,13,12	
15		2.0/2	2.0	CLAYEY SAND: Reddish-brown to gray, fine- to medium-grained with some quartz gravel, silty.	SC	7,10,8,7	
20		2.0/2	0.0	SAND: Off-white, fine- to medium-grained, trace heavy minerals, mica.	SP	6,5,7,7	
25		2.0/2	0.0	SAND: Off-white, very fine- to coarse-grained with some quartz gravel, trace heavy minerals, mica.	SW	4,5,9,8	
30		1.8/2	1.0	CLAYEY SAND: Orange-brown to gray, very fine-grained, low plasticity.	SC	7,6,6,5	
35		1.2/2	0.0	SAND: Off-white, fine- to very fine-grained, well sorted, trace heavy minerals, mica.	SP	6,6,7,6	
40		1.0/2	0.0			4,4,4,7	
45		1.0/2	0.0	SAND: Off-white to pink, fine- to coarse-grained with some quartz gravel, trace heavy minerals.	SW	7,6,7,10	
50					SW		

TITLE: NAS Whiting Field		LOG of WELL: WHF-1467-12	BORING NO. NFF-SB-55
CLIENT: SOUTHNAVFACENGCOM		PROJECT NO: 7518-40	
CONTRACTOR: Groundwater Protection, Inc.		DATE STARTED: 1/27/92	COMPLTD: 1/27/92
METHOD: 6.25" HSA	CASE SIZE: 4 inch	SCREEN INT.: 68'-83'98"	PROTECTION LEVEL: 0
TOC ELEV.: FT.	MONITOR INST.: OVA	TOT DPTH: 106.55FT.	DPTH TO ∇ 82.65 FT.
LOGGED BY: C. King	WELL DEVELOPMENT DATE: 2/27/92		SITE: 1467

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
Continued from PAGE 1								
		1.0/2	0.0	SAND: Off-white, fine- to coarse-grained, trace heavy minerals.		SW	9,7,7,8	
55		1.4/2	0.0				7,10,12,14	
60		1.6/2	3.0	SAND: Orange, fine- to coarse-grained, trace heavy minerals.		SW	7,11,12,13	
65		2.0/2	0.0	SAND: Pink, fine- to coarse-grained.		SW	9,16,19,18	
70		1.2/2	0.0	SAND: Yellow, orange, pink, red, mottled, fine- to coarse-grained with some quartz gravel, some clay.		SW	5,7,7,10	
75		0.4/2	3.0	SAND: Yellow, orange, pink, red, mottled, fine- to coarse-grained.		SW	Wt of Rod	
80		2.0/2	1.0	CLAY: Gray to orange-brown, stiff, high plasticity.		CH	Wt. of Rod	
85		2.0/2	0.0				8,7,9,9	
90		2.0/2	1.0	CLAY: Gray to orange-brown, high plasticity.		CH	5,5,6,4	
95		2.0/2	1.0	CLAY: Gray to red to pink, very fine-grained, high plasticity.		CH	4,4,6,5	
100						SC		

TITLE: NAS Whiting Field		LOG of WELL: WHF-1467-12	BORING NO. NFF-SB-55
CLIENT: SOUTHNAVFACENGCOM			PROJECT NO: 7518-40
CONTRACTOR: Groundwater Protection, Inc.		DATE STARTED: 1/27/92	COMPLTD: 1/27/92
METHOD: 6.25" HSA	CASE SIZE: 4 inch	SCREEN INT.: 68'-83';98'-100'	PROTECTION LEVEL: D
TOC ELEV.: FT.	MONITOR INST.: OVA	TOT DPTH: 106.55FT.	DPTH TO ∇ 82.65 FT.
LOGGED BY: C. King	WELL DEVELOPMENT DATE: 2/27/92		SITE: 1467

DEPTH FT.	LABORATORY SAMPLE ID.	RECOVERY HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
Continued from PAGE 2							
		2.0/2	2.0	CLAYEY SAND: Light brown, very fine-grained, low plasticity, saturated	SC	7,12,18,26	
105							
110							
115							
120							
125							
130							
135							
140							
145							
150							

TITLE: NAS Whiting Field, Site 2891				LOG of WELL: WHF-1467-13R		BORING NO. AST-SB-12	
CLIENT: SOUTHNAVFACENGCOM						PROJECT NO: 7518-30	
CONTRACTOR: Groundwater Protection, Inc.				DATE STARTED: 05/20/92		COMPLTD: 05/20/92	
METHOD: HSA		CASE SIZE: 4" ID		SCREEN INT.: 75'-90'		PROTECTION LEVEL: D	
TOC ELEV.: 164.57 FT.		MONITOR INST.: OVA		TOT DPTH: 90FT.		DPTH TO ∇ 81 FT.	
LOGGED BY: N. Pagano		WELL DEVELOPMENT DATE:				SITE: 2891	

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
							POSTHOLE	
5		1.8/2	0.0	SAND: Medium grained, trace of clay.		SP		
10		2.0/2	0.0	SANDY CLAY: Mottled red/gold/off-white, fine grained.		CL		
15		2.0/2	0.0	SILTY CLAY: Mottled red/gold/off-white, some fine grained sand.		CL		
20		1.8/2	0.0	SILTY CLAY: Mottled light gray/pink, stiff, damp.		CL		
25		1.5/2	0.0					
30		1.8/2	0.0	SAND: Pink, fine grained, well sorted, 2" clay layer, moist.		SP		
35		1.5/2	0.0					
40		1.5/2	0.0	SAND: Pink, very fine to fine grained with some medium grains, well graded.		SP		
45		1.8/2	0.0	SAND: White with red-brown layers, very fine to fine grained, well graded, dry.		SP		
50						SP		

TITLE: NAS Whiting Field, Site 2891		LOG of WELL: WHF-1467-13R		BORING NO. AST-SB-12	
CLIENT: SOUTHNAVFACENGCOM				PROJECT NO: 7518-30	
CONTRACTOR: Groundwater Protection, Inc.			DATE STARTED: 05/20/92		COMPLTD: 05/20/92
METHOD: HSA		CASE SIZE: 4" ID		SCREEN INT.: 75'-90'	
TOC ELEV.: 164.57 FT.		MONITOR INST.: OVA		TOT DPTH: 90FT.	
LOGGED BY: N. Pagano		WELL DEVELOPMENT DATE:			SITE: 2891

DEPTH F.T.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
Continued from PAGE 1								
		2.0/2	2.0	SAND: White, very fine to coarse grained, well graded.		SP		
55		1.6/2	2.0	SAND: White, very fine to fine grained, moderately graded.		SP		
60		1.8/2	0.0					
65		1.8/2	0.0					
70		1.8/2	0.0	SAND: Gray with yellow layers, very fine to very coarse grained, well graded, small pebbles.		SW		
75		2.0/2	0.0	SAND: White with red and orange layers, very fine to small gravel.		SW		
80		2.0/2	0.0	SAND: White with orange and yellow layers, medium to coarse grained, damp.		SW		
85		2.0/2	0.0	SILTY CLAY: Mottled orange/yellow/gray, moist.		CL		
90		2.0/2	0.0	CLAY: Mottled gray/brown/orange, silty lenses, damp.		CL		
95								
100								

TITLE: NAS Whiting Field North Fuel Farm				LOG of WELL: WHF-1467-14		BORING NO. NFF-SB-47	
CLIENT: SOUTHNAVFACENGCOM						PROJECT NO: 7518-40	
CONTRACTOR: Groundwater Protection				DATE STARTED: 3/11/92		COMPLTD: 3/11/92	
METHOD: HSA		CASE SIZE: 4 inch		SCREEN INT.: 95'-110'		PROTECTION LEVEL: D	
TOC ELEV.: 174.47 FT.		MONITOR INST.: OVA		TOT DPTH: 110FT.		DPTH TO ∇ 98 FT.	
LOGGED BY: N. Pagano		WELL DEVELOPMENT DATE:				SITE: North Fuel Farm	

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
								POSTHOLE	
5			2.0/2	0.0	SANDY CLAY: Red-brown, yellow, and white, fine to medium grained, moist.		SC	6,12,22,21	
10			1.8/2	0.0	CLAY: Red-brown, yellow, rose, beige, fine to medium grained, stiff.		SC	4,6,12,12	
15			1.6/2	0.0	SANDY CLAY: Rose, white, tan, fine to medium grained.		SC	5,3,4,3	
20			1.6/2	0.0	SANDY CLAY: Red-brown, rose, fine to medium grained.		SC	5,5,6,6	
25			1.6/2	0.0	SANDY CLAY: Yellow, red-brown, white, fine to medium grained, moderate clay content.		SC	5,6,7,6	
30			1.6/2	0.0	SAND: Yellow, red-brown, white, fine to medium grained.		SP	16,12,12,15	
35			1.0/2	0.0	SAND: Yellow, pink, buff, tan, fine to coarse grained, with some clay and gravel.		SW	9,10,12,12	
40			1.6/2	0.0	SAND: Buff, tan, white, fine to coarse grained, with some gravel.		SW	10,12,12,15	
45			1.6/2	0.0	SAND: Buff, tan, and white, fine to medium grained.		SP	16,18,16,12	
50			1.3/2	0.0				10,11,15,20	
55							SP		

TITLE: NAS Whiting Field North Fuel Farm		LOG of WELL: WHF-1467-14	BORING NO. NFF-SB-47
CLIENT: SOUTHNAVFACENGCOM		PROJECT NO: 7518-40	
CONTRACTOR: Groundwater Protection		DATE STARTED: 3/11/92	COMPLTD: 3/11/92
METHOD: HSA	CASE SIZE: 4 inch	SCREEN INT.: 95'-110'	PROTECTION LEVEL: 0
TOC ELEV.: 174.47 FT.	MONITOR INST.: OVA	TOT DPTH: 110FT.	DPTH TO ∇: 98 FT.
LOGGED BY: N. Pagano	WELL DEVELOPMENT DATE:		SITE: North Fuel Farm

DEPTH F.T.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS Continued from PAGE 1	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
			1.3/2	0.0	SAND: Buff, tan, and white, fine to medium grained.		SP	10,12,12,15	
60			1.3/2	0.0				6,8,8,6	
65			1.0/2	3.0	SAND: Buff, tan, and white, fine to medium grained.		SP	12,15,21,20	
70			1.7/2	1.0	SAND: Red, pink, white, fine to coarse grained.		SW	WT. of ROD	
75			1.7/2	0.0	SAND: Pink, white, buff, fine to medium grained.		SP	0,1,48,51	
80			1.3/2	2.0				12,15,29,31	
85			1.3/2	2.0	SAND: White, light grey, fine to medium grained.		SP	WT. of ROD	
90			1.2/2	0.0				28,34,35,39	
95			1.2/2	0.0	SAND: White, light grey, fine to medium grained.		SP	14,18,20,20	
100			1.6/2	-	SAND: Pink, buff, tan, fine to medium grained, saturated.		SP	WT. of ROD	
105			1.2/2						
110									

TITLE: NAS Whiting Field				LOG of WELL: WHF-1467-15		BORING NO. NFF-SB-52	
CLIENT: SOUTHNAVFACENGCOM						PROJECT NO: 7518-40	
CONTRACTOR: Groundwater Protection, Inc.				DATE STARTED: 3/11/92		COMPLTD: 3/11/92	
METHOD: 6.25" HSA		CASE SIZE: 4 inch		SCREEN INT.: 100'-115'		PROTECTION LEVEL: 0	
TOC ELEV.: FT.		MONITOR INST.: OVA		TOT DPTH: 115.50FT.		DPTH TO ∇ 108.75 FT.	
LOGGED BY: N. Pagano		WELL DEVELOPMENT DATE: --				SITE: 1467	

DEPTH FT.	LABORATORY SAMPLE ID.	RECOVERY HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
						POSTHOLE	
5		2.0/2	0.0	SAND: Reddish brown, fine-grained, some clay, damp.	SC	2,3,4,3	
10		2.0/2	0.0			2,10,7,6	
15		2.0/2	0.0	SANDY CLAY: Reddish-brown, fine-grained, moderate clay content, damp.	SC	7,8,8,8	
20		1.5/2	0.0	SANDY CLAY: Reddish-brown, medium- to coarse-grained, moderate clay content, very moist.	SC	10,16,15,12	
25		2.0/2	0.0	SANDY CLAY: Orange-brown to pink, fine-grained, moderate clay content .5', pink to light pink, fine- to medium-grained sand, small amount of clay in remainder of spoon.	SC	5,6,9,9	
30		1.5/2	0.0	SAND: Light gray to off-white to white, fine- to medium-grained.	SP	11,17,20,22	
35		1.0/2	0.0	SAND: Off-white to white, fine- to medium-grained.	SP	12,15,15,16	
40		1.5/2	0.0	SAND: Off-white to white with a pink, 3" band, medium- to coarse- grained.	SP	12,12,15,12	
45		1.0/2	0.0	SAND: Light pink to off-white, medium- to coarse-grained.	SP	12,16,18,20	
50					SP		

TITLE: NAS Whiting Field		LOG of WELL: WHF-1467-15		BORING NO. NFF-SB-52	
CLIENT: SOUTHNAVFACENGCOM				PROJECT NO: 7518-40	
CONTRACTOR: Groundwater Protection, Inc.			DATE STARTED: 3/11/92		COMPLTD: 3/11/92
METHOD: 6.25" HSA		CASE SIZE: 4 inch		SCREEN INT.: 100'-115'	
TOC ELEV.: FT.		MONITOR INST.: OVA		TOT DPTH: 115.50 FT.	
LOGGED BY: N. Pagano		WELL DEVELOPMENT DATE: --		DEPTH TO ∇ 108.75 FT.	
				SITE: 1467	

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
Continued from PAGE 1								
		1.5/2	0.0	SAND: Pink to light pink, medium- to coarse-grained with gravel zones throughout spoon.		SP	14,14,15,16	
55		1.5/2	1.0	SAND: Light pink to off-white, fine- to medium-grained with some coarse grains.		SP	18,20,21,20	
60		1.3/2	0.0				15,17,21,21	
65		1.7/2	0.0	SAND: Off-white to white, fine- to medium-grained.		SP	14,15,15,17	
70		1.5/2	0.0	SAND: Light pink to off-white with pink bands throughout spoon, fine- to coarse-grained with gravel throughout spoon.		SW	Wt. of Rod	
75		1.5/2	0.0	SAND: Off-white to white, fine- to medium-grained.		SP	9,10,15,16	
80		2.0/2	0.0	SAND: Off-white to white, fine- to medium-grained with some gravel in top .5' of spoon.		SP	21,22,24,24	
85		1.0/2	0.0	SAND: Off-white to white, fine- to medium-grained with few coarse grains and gravel.		SW	Wt. of Rod	
90		1.5/2	0.0	SAND: Pink to light pink, medium- to coarse-grained with gravel .5', off-white to white, fine- to medium-grained with few coarse grains in remainder of spoon.		SW	Wt. of Rod	
95		2.0/2	0.0	SAND: Off-white to light pink, fine- to medium-grained.			Wt. of Rod	
100								

TITLE: NAS Whiting Field		LOG of WELL: WHF-1467-15		BORING NO. NFF-SB-52	
CLIENT: SOUTHNAVFACENGCOM				PROJECT NO: 7518-40	
CONTRACTOR: Groundwater Protection, Inc.			DATE STARTED: 3/11/92		COMPLTD: 3/11/92
METHOD: 6.25" HSA		CASE SIZE: 4 inch		SCREEN INT.: 100'-115'	
TOC ELEV.: FT.		MONITOR INST.: OVA		PROTECTION LEVEL: D	
LOGGED BY: N. Pagano		TOT DPTH: 115.50 FT.		DPH TO ∇ 108.75 FT.	
WELL DEVELOPMENT DATE: --			SITE: 1467		

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
Continued from PAGE 2								
		1.5/2	0.0				Wt. of Rod	
105		2.0/2	G.C.	SAND: Light pink to off-white with pink bands throughout .5', medium- to coarse-grained, orangish-yellow, fine-grained, some clay in remainder of spoon, saturated.		SP	20,21,22,25	
110								
115		2.0/2	G.C.	CLAY: Pinkish-gray, very stiff, plastic.		CL	Wt. of Rod	
120		1.5/2	G.C.	SAND: Dark pink to light pink to off-white, medium- to coarse-grained with some pebbles and gravel, saturated.		SP	6,20,25,25	
125								
130								
135								
140								
145								
150								

TITLE: NAS Whiting Field North Fuel Farm				LOG of WELL: WHF-1467-16		BORING NO. NFF-SB-53	
CLIENT: SOUTHNAVFACENGCOM						PROJECT NO: 7518-40	
CONTRACTOR: Groundwater Protection				DATE STARTED: 3/12/92		COMPLTD: 3/12/92	
METHOD: HSA		CASE SIZE: 4 inch		SCREEN INT.: 100'-115'		PROTECTION LEVEL: D	
TOC ELEV.: 177.05 FT.		MONITOR INST.: OVA		TOT DPTH: 115FT.		DPTH TO ▽ 103 FT.	
LOGGED BY: N. Pagano		WELL DEVELOPMENT DATE:				SITE: North Fuel Farm	

DEPTH F.T.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
5		2.0/2	0.0	SAND: Orange-brown, fine grained, well-sorted, trace heavy minerals, mica.	SP	SP	N.M.	
10		2.0/2	0.0	CLAYEY SAND: Red-brown, very fine grained, silty.	SC	SC	N.M.	
15		2.0/2	0.0	CLAYEY SAND: Pink, tan, yellow mottled, very fine grained, low plasticity.	SC	SC	4,5,9,10	
20		2.0/2	0.0	SAND: Light pink to peach, fine to medium grained, trace heavy minerals, some clay.	SP	SP	4,9,12,13	
25		2.0/2	0.0	CLAYEY SAND: Pink, orange, red mottled, very fine grained to coarse grained, low plasticity.	SC	SC	4,5,4,4	
30		2.0/2	0.0	CLAY: Pink, orange, gray mottled, low plasticity.	CL	CL	3,2,2,3	
35		2.0/2	0.0	CLAY: Pink, orange, gray mottled, low plasticity. SAND: Off-white to beige, fine to medium grained, trace heavy minerals	CL	CL	12,16,26,28	
40		2.0/2	0.0	SAND: Off-white to tan, fine to medium grained, trace heavy minerals.	SP	SP	9,12,15,11	
45		1.6/2	0.0	SAND: Off-white to beige, fine to medium grained with some quartzitic gravel, trace heavy minerals, mica.	SW	SW	6,7,9,10	
50		2.0/2	0.0	SAND: Off-white, fine to medium grained with some quartzitic gravel, trace heavy minerals.	SW	SW	3,8,9,10	
55								

TITLE: NAS Whiting Field North Fuel Farm				LOG of WELL: WHF-1467-16		BORING NO. NFF-SB-53	
CLIENT: SOUTHNAVFACENGCOM						PROJECT NO: 7518-40	
CONTRACTOR: Groundwater Protection				DATE STARTED: 3/12/92		COMPLTD: 3/12/92	
METHOD: HSA		CASE SIZE: 4 inch		SCREEN INT.: 100'-115'		PROTECTION LEVEL: 0	
TOC ELEV.: 177.05 FT.		MONITOR INST.: OVA		TOT DPTH: 115FT.		DPTH TO ▽ 103 FT.	
LOGGED BY: N. Pagano		WELL DEVELOPMENT DATE:				SITE: North Fuel Farm	

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
Continued from PAGE 1								
		2.0/2	0.0				5,9,13,13	
60		2.0/2	0.0	SAND: Off-white, fine to coarse grained, trace heavy minerals, some clay.	• • • • • •	SW	7,10,12,12	
65		2.0/2	0.0	SAND: Off-white, fine grained, well-sorted, trace heavy minerals.	• • • • • •	SP	7,9,11,8	
70		2.0/2	0.0	SAND: Off-white to pink, fine to very fine grained, well-sorted, trace heavy minerals, mica.	• • • • • •	SP	5,9,12,15	
75		1.6/2	0.0				5,9,13,14	
80		2.0/2	0.0	SAND: Off-white to pink, fine to medium grained, trace heavy minerals.	• • • • • •	SP	14,14,14,13	
85		2.0/2	0.0	SAND: Off-white to orange, very fine to fine grained, well-sorted, trace heavy minerals, mica.	• • • • • •	SP	10,9,15,16	
90		1.6/2	0.0	SAND: Off-white to orange, fine to medium grained, well-sorted, trace heavy minerals, mica.	• • • • • •	SP	8,10,11,13	
95		1.8/2	0.0	SAND: Off-white, pink, orange, fine to coarse grained, trace heavy minerals, some clay.	• • • • • •	SW	14,14,20,20	
100		2.0/2	N.M.	SAND: Off-white to pink, fine to medium grained, trace heavy mineral, mica.	• • • • • •	SP	15,18,30,33	
105		2.0/2	N.M.	SAND: Red to purple, poorly sorted, gravelly, saturated.	• • • • • •	SW	7,8,7,14	
110								

TITLE: NAS Whiting Field North Fuel Farm		LOG of WELL: WHF-1467-16	BORING NO. NFF-SB-53
CLIENT: SOUTHNAVFACENGCOM		PROJECT NO: 7518-40	
CONTRACTOR: Groundwater Protection		DATE STARTED: 3/12/92	COMPLTD: 3/12/92
METHOD: HSA	CASE SIZE: 4 inch	SCREEN INT.: 100'-115'	PROTECTION LEVEL: D
TOC ELEV.: 177.05 FT.	MONITOR INST.: OVA	TOT DPTH: 115FT.	DPTH TO ∇ 103 FT.
LOGGED BY: N. Pagano	WELL DEVELOPMENT DATE:		SITE: North Fuel Farm

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS Continued from PAGE 2	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
115		2.0/2	G.C.	CLAY: Stiff.		CL	N.M.	
120								
125								
130								
135								
140								
145								
150								
155								
160								
165								

TITLE: NAS Whiting Field		LOG of WELL: WHF-1467-17		BORING NO. NFF-SB-51	
CLIENT: SOUTHNAVFACENGCOM				PROJECT NO: 7518-40	
CONTRACTOR: Groundwater Protection, Inc.			DATE STARTED: 3/13/92		COMPLTD: 3/13/92
METHOD: 8.25" HSA		CASE SIZE: 4 inch		SCREEN INT.: 100'-115'	
TOC ELEV.: FT.		MONITOR INST.: OVA		TOT DPTH: 115FT.	
LOGGED BY: N. Pagano		WELL DEVELOPMENT DATE: 4/27/92			SITE: 1467

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
5								POSTHOLE	
			2.0/2	0.0	SAND: Reddish-brown, fine-grained, low clay content, damp.		SP	3,3,2,3	
10			1.0/2	0.0	SAND: Reddish-brown, fine-grained, little less clay than above, damp.		SP	3,4,4,4	
15			1.5/2	0.0				3,8,9,9	
20			1.0/2	0.0	CLAY: Off-white with light pink streaks, fine-grained, very stiff, damp.		CL	3,5,6,6	
25			1.5/2	0.0	SAND: Off-white to white, fine- to medium-grained.		SP	10,15,16,19	
30			1.2/2	0.0				10,12,24,23	
35			1.5/2	0.0	SAND: Off-white to white, fine- to medium-grained.		SP	10,16,20,20	
40			2.0/2	0.0	SAND: Pink to light pink, medium- to coarse-grained.		SP	12,13,16,18	
45			2.0/2	2.0	SAND: Off-white to light gray, fine- to medium-grained, with some coarse grains and gravel in bottom .5' of spoon.		SW	3,6,9,9	
50									

TITLE: NAS Whiting Field		LOG of WELL: WHF-1467-17	BORING NO. NFF-SB-51
CLIENT: SOUTHNAVFACENGCOM			PROJECT NO: 7518-40
CONTRACTOR: Groundwater Protection, Inc.		DATE STARTED: 3/13/92	COMPLTD: 3/13/92
METHOD: 6.25" HSA	CASE SIZE: 4 inch	SCREEN INT.: 100'-115'	PROTECTION LEVEL: D
TOC ELEV.: FT.	MONITOR INST.: OVA	TOT DPTH: 115FT.	DPTH TO ▽ 106 FT.
LOGGED BY: N. Pagano		WELL DEVELOPMENT DATE: 4/27/92	SITE: 1467

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS Continued from PAGE 1	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
55		1.5/2	0.0				8,12,15,15	
		1.0/2	0.0	SAND: Light pink to off-white, fine- to medium-grained with coarse grains and gravels.	• • • •	SW	15,15,20,22	
60		1.2/2	0.0				10,10,12,15	
65		1.0/2	0.0	SAND: Light gray to off-white, fine- to medium-grained.	• • • •	SP	15,18,20,25	
70		1.0/2	0.0	SAND: Off-white to white, medium- to coarse-grained with gravel throughout.	• • • •	SP	Wt. of Rod	
75		1.5/2	0.0	SAND: Light pink to off-white, fine- to medium-grained with few coarse grains and gravel.	• • • •	SP	10,12,15,18	
80		1.0/2	0.0	SAND: Light gray to off-white, medium- to coarse-grained with gravel throughout.	• • • •	SP	15,35,50,R	
85		1.0/2	0.0	SAND: Light gray to off-white, fine- to medium-grained.	• • • •	SP	Wt. of Rod	
90		1.0/2	0.0	SAND: Light gray to off-white to light yellow, fine- to medium-grained	• • • •	SP	Wt. of Rod	
95		1.5/2	0.0				25,29,30,32	
100						SP		

TITLE: NAS Whiting Field		LOG of WELL: WHF-1467-17	BORING NO. NFF-SB-51
CLIENT: SOUTHNAVFACENGCOM		PROJECT NO: 7518-40	
CONTRACTOR: Groundwater Protection, Inc.		DATE STARTED: 3/13/92	COMPLTD: 3/13/92
METHOD: 6.25" HSA	CASE SIZE: 4 inch	SCREEN INT.: 100'-115'	PROTECTION LEVEL: D
TOC ELEV.: FT.	MONITOR INST.: OVA	TOT DPTH: 115FT.	DPTH TO ∇ 106 FT.
LOGGED BY: N. Pagano	WELL DEVELOPMENT DATE: 4/27/92		SITE: 1467

DEPTH FT.	LABORATORY SAMPLE ID.	RECOVERY HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
Continued from PAGE 2							
		1.0/2	0.0	SAND: Pink to light pink with yellow streaks, fine- to medium-grained.	SP	Wt. of Rod	
105		1.5/2	G.C.	SAND: Pink to light pink with alternating yellow bands, fine- to medium-grained with coarse grains and gravel throughout, saturated.	SW	Wt. of Rod	
110							
115							
120							
125							
130							
135							
140							
145							
150							

TITLE: NAS Whiting Field North Fuel Farm		LOG of WELL: WHF-1467-18	BORING NO. NFF-SB-50
CLIENT: SOUTHNAVFACENGCOM			PROJECT NO: 7518-40
CONTRACTOR: Groundwater Protection		DATE STARTED: 3/13/92	COMPLTD: 3/13/92
METHOD: HSA	CASE SIZE: 4 inch	SCREEN INT.: 100'-115'	PROTECTION LEVEL: D
TOC ELEV.: 175.12 FT.	MONITOR INST.: OVA	TOT DPTH: 115FT.	DPTH TO ∇ FT.
LOGGED BY: N. Pagano	WELL DEVELOPMENT DATE:		SITE: North Fuel Farm

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
5		2.0/2	0.0	SANDY CLAY: Reddish brown, fine grained, moderate clay content, damp.		SC	3,3,3,3	POSTHOLE
10		2.0/2	0.0	SAND: Reddish brown, fine grained, small clay content, damp.		SP	3,3,4,4	
15		0.5/2	0.0				3,4,5,6	
20		2.0/2	0.0	CLAY: Light pink to off-white, fine grained very stiff, sand in top 4" of spoon.		SC	7,16,13,10	
25		2.0/2	0.0	CLAY: Off-white to light grey, fine to medium grained.		SC	10,16,21,21	
30		1.7/2	0.0	SAND: Off-white with pink to light pink streaks, fine to medium grained.		SP	10,10,12,12	
35		2.0/2	0.0	SAND: Off-white with pink to light pink streaks, some coarser grains.		SW	12,14,16,20	
40		1.7/2	0.0	SAND: Pink to light pink to white, medium to coarse grained.		SW	10,12,12,12	
45		1.5/2	0.0	SAND: Pink to light pink to white, medium to coarse grained, pebbles, gravel.		SW	11,13,12,10	
50		1.0/2	0.0	SAND: Pink to light pink to white, medium to coarse grained, 6" of spoon, off-white to white, fine to medium grained.		SW	9,10,10,12	
55						SP		

TITLE: NAS Whiting Field North Fuel Farm		LOG of WELL: WHF-1467-18	BORING NO. NFF-SB-50
CLIENT: SOUTHNAVFACENGCOM		PROJECT NO: 7518-40	
CONTRACTOR: Groundwater Protection		DATE STARTED: 3/13/92	COMPLTD: 3/13/92
METHOD: HSA	CASE SIZE: 4 inch	SCREEN INT.: 100'-115'	PROTECTION LEVEL: D
TOC ELEV.: 175.12 FT.	MONITOR INST.: OVA	TOT DPTH: 115FT.	DPTH TO ∇ FT.
LOGGED BY: N. Pagano	WELL DEVELOPMENT DATE:		SITE: North Fuel Farm

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
Continued from PAGE 1								
		1.5/2	0.0	SAND: Off-white to white, fine to medium grained.		SP	11,12,15,14	
60		2.0/2	0.0				16,18,16,16	
65		1.2/2	0.0	SAND: Pink to light pink, fine to medium grained, some coarse grained and pebbles.		SP	15,16,16,18	
70		1.5/2	0.0	SAND: Off-white to light pink, fine to medium grained.		SP	13,14,14,14	
75		0.5/2	0.0				Wt. of Rod	
80		1.0/2	2.0	SAND: Off-white with light yellow streaks, fine to medium grained.		SP	Wt. of Rod	
85		1.3/2	0.0	SAND: Off-white to white, fine to medium grained.			20,22,22,24	
90		2.0/2	0.0				20,21,36,36	
95		1.0/2	0.0	SAND: Off-white to light yellow, fine to medium grained, some coarse grains.		SP	18,18,17,16	
100		1.5/2	3.0	SAND: Off-white to light pink, fine to medium grained, some coarse grains, slightly damp.		SP	0,0,0,23	
105		2.0/2	G.C.	SAND: Off-white to light pink, fine to medium grained, coarse grained layers, saturated.		SP	0,0,23,24	
110								

TITLE: NAS Whiting Field North Fuel Farm		LOG of WELL: WHF-1467-18	BORING NO. NFF-SB-50
CLIENT: SOUTHNAVFACENGCOM		PROJECT NO: 7518-40	
CONTRACTOR: Groundwater Protection		DATE STARTED: 3/13/92	COMPLTD: 3/13/92
METHOD: HSA	CASE SIZE: 4 inch	SCREEN INT.: 100'-115'	PROTECTION LEVEL: 0
TOC ELEV.: 175.12 FT.	MONITOR INST.: OVA	TOT DPTH: 115FT.	DPTH TO ∇ FT.
LOGGED BY: N. Pagano	WELL DEVELOPMENT DATE:		SITE: North Fuel Farm

DEPTH FT.	LABORATORY SAMPLE ID.	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS Continued from PAGE 2	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
115								
120								
125								
130								
135								
140								
145								
150								
155								
160								
165								

TITLE: NAS Whiting Field North Fuel Farm				LOG of WELL: WHF-1467-19		BORING NO. NFF-SB-48	
CLIENT: SOUTHNAVFACENGCOM						PROJECT NO: 7518-40	
CONTRACTOR: Groundwater Protection				DATE STARTED: 3/14/92		COMPLTD: 3/14/92	
METHOD: HSA		CASE SIZE: 4 inch		SCREEN INT.: 90'-105'		PROTECTION LEVEL: D	
TOC ELEV.: 189.33 FT.		MONITOR INST.: OVA		TOT DPTH: 105FT.		DPTH TO ∇ FT.	
LOGGED BY: N. Pagano		WELL DEVELOPMENT DATE:				SITE: North Fuel Farm	

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
							POSTHOLE	
5		2.0/2	2.0	SANDY CLAY: Red-brown, fine to medium grained, moist at top.	— — — —	SC	9,13,9,10	
10		1.8/2	0.0	SAND: Red-orange to grey, fine to medium grained with some clay.	— — — —	SC	3,3,3,4	
15		1.6/2	0.0	SANDY CLAY: Pink to white, fine to medium grained, high clay content.	— — — —	SC	3,4,5,5	
20		1.6/2	0.0	SAND: Pink to white, fine to medium grained.	• • • •	SP	4,5,5,4	
25		1.6/2	0.0	SAND: Off-white to white, fine to medium grained.	• • • •	SP	7,8,8,9	
30		1.6/2	0.0				7,7,8,9	
35		1.0/2	0.0	SAND: Off-white, buff, and pink, fine to medium grained, some coarse grained in bottom of spoon.	• • • •	SP	9,10,10,12	
40		1.6/2	0.0	SAND: Pink to off-white, fine to medium grained.	• • • •	SP	6,8,8,10	
45		1.6/2	0.0	SAND: Yellow to pink, medium to coarse grained with some gravel.	• • • •	SW	8,10,10,11	
50		1.3/2	0.0	SAND: Off-white to white, fine to medium grained.	• • • •	SP	5,6,6,7	
55						SP		

TITLE: NAS Whiting Field North Fuel Farm		LOG of WELL: WHF-1467-19	BORING NO. NFF-SB-48
CLIENT: SOUTHNAVACENGCOM			PROJECT NO: 7518-40
CONTRACTOR: Groundwater Protection		DATE STARTED: 3/14/92	COMPLTD: 3/14/92
METHOD: HSA	CASE SIZE: 4 inch	SCREEN INT.: 90'-105'	PROTECTION LEVEL: D
TOC ELEV.: 189.33 FT.	MONITOR INST.: OVA	TOT DPTH: 105FT.	DPTH TO ∇ FT.
LOGGED BY: N. Pagano	WELL DEVELOPMENT DATE:		SITE: North Fuel Farm

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
Continued from PAGE 1								
		1.3/2	0.0	SAND: Off-white, fine to medium grained.		SP	WT. of ROD	
				SANDY CLAY: Red-pink, fine grained, high clay content, stiff, damp.				
60		1.3/2	0.0	SAND: Off-white to white, fine to medium grained.		SP	WT. of ROD	
65								
		1.0/2	0.0				16,15,16,20	
70								
		1.7/2	0.0	SAND: Off-white to white, fine to medium grained.		SP	15,17,20,20	
75								
		1.7/2	0.0	SAND: Off-white with yellow bands, medium to coarse grained.		SW	13,15,15,17	
80								
		1.3/2	2.0	SAND: Off-white to white, fine to medium grained.		SP	12,13,13,12	
85								
		1.3/2	4.0				9,10,10,11	
90								
		1.2/2	-	SAND: Off-white to white, fine to medium grained with some gravel.		SP	WT. of ROD	
95								
		1.2/2	G.C.	SAND: Off-white to light yellow, medium to coarse grained with some gravel, saturated.		SW	WT. of ROD	
100								
105								
110								

TITLE: NAS Whiting Field				LOG of WELL: WHF-1467-20		BORING NO. NFF-SB-29	
CLIENT: SOUTHNAVFACENGCOM						PROJECT NO: 7518-30	
CONTRACTOR: Groundwater Protection				DATE STARTED: 4/9/92		COMPLTD: 4/10/92	
METHOD: HSA		CASE SIZE: 4 inch		SCREEN INT.: 95'-110'		PROTECTION LEVEL: D	
TOC ELEV.: 172.26 FT.		MONITOR INST.: OVA		TOT DPTH: 110FT.		DPTH TO ∇ 99 FT.	
LOGGED BY: J. Koch/P. Wagner		WELL DEVELOPMENT DATE: 4/28/92				SITE: North Fuel Farm	

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
5		2.0/2	0.0	CLAY: Reddish brown, silty, low plasticity.		CL	POSTHOLE 10,8,12,12	
10		2.0/2	0.0	CLAYEY SAND: Light reddish brown to pink, fine grained, silty.		SC	7,5,9,8	
15		2.0/2	23.0	CLAYEY SAND: Pink, fine grained.		SC	3,5,5,5	
20		1.0/2	45.0	CLAYEY SAND: Light pink to gray, very fine grained.		SC	11,9,5,4	
25		N/A	N/A	NO RECOVERY				
30		1.2/2	5.0	SAND: Light pink, gray, yellow, fine to coarse grained some quartzitic gravel, mica.		SW	8,8,6,8	
35		1.2/2	4.0	SAND: Off-white, fine to medium grained, trace heavy mineral, some small clay lenses.		SP	7,8,8,7	
40		1.4/2	5.0				7,6,9,13	
45		1.4/2	3.0	SAND: Off-white, fine to coarse grained some quartzitic gravel, trace heavy mineral.		SW	12,15,13,13	
50		1.4/2	0.0	SAND: Off-white, fine grained, well sorted, trace heavy mineral.		SP	14,15,16,18	
55		1.6/2	1.0	SAND: Off-white, fine to very fine grained, well-sorted, trace heavy mineral, mica.		SP	13,16,16,17	
60		1.8/2	50.0	SAND: Gray, fine to very fine grained, well-sorted, mica.		SP	8,9,9,18	
65		1.4/2	22.0	SAND: Off-white, very fine grained, trace heavy mineral, well-sorted, mica.		SP	20,24,23,25	

TITLE: NAS Whiting Field		LOG of WELL: WHF-1467-20		BORING NO. NFF-SB-29	
CLIENT: SOUTHNAVFACENGCOM				PROJECT NO: 7518-30	
CONTRACTOR: Groundwater Protection			DATE STARTED: 4/9/92		COMPLTD: 4/10/92
METHOD: HSA		CASE SIZE: 4 inch		SCREEN INT.: 95'-110'	
TOC ELEV.: 172.28 FT.		MONITOR INST.: OVA		TOT DPTH: 110FT.	
LOGGED BY: J. Koch/P. Wagner		WELL DEVELOPMENT DATE: 4/28/92			SITE: North Fuel Farm

DEPTH FT.	LABORATORY SAMPLE ID.	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS Continued from PAGE 1	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
72		1.6/2	17.0	SAND: Off-white, fine grained, well-sorted, trace heavy mineral, mica.		SP	18,27,27,31	
77		1.6/2	4.0	SAND: Off-white, fine to coarse grained, trace heavy mineral.	• • •	SW	19,24,20,22	
82		1.4/2	80.0	SAND: Off-white to pink, fine to medium grained, trace heavy mineral.		SP	25,24,37,44	
87		1.6/2	3.0	SAND: Off-white, fine grained, well-sorted, trace heavy mineral.		SP	22,24,33,41	
92		1.4/2	6.0	SAND: Off-white, fine to medium grained some quartzitic gravel, trace heavy mineral.		SP	16,20,25,24	
97		1.8/2	600.0	CLAYEY SAND: Off-white, fine to medium grained.	---	SC	15,15,15,14	
102		2.0/2	600.0	CLAYEY SAND: Off-white, fine to medium grained, trace heavy mineral, saturated.	---	SC		
107		0.5/2		CLAYEY SAND: Tan-orange, fine to medium grained, poorly sorted.	---	SC		
112		1.0/2		SAND: Gray, medium grained, well sorted.				
				SAND: Gray, fine to coarse grained, very poorly sorted, trace heavy minerals.	• • •	SW		
117		1.6/2		SAND: Tan, red, and gray, fine to medium grained, moderately sorted, trace heavy minerals.		SP		
122		2.0/2		SAND: Tan to white, fine grained, moderately well sorted.		SP		
127		0.3/2						
132		0.5/2						










TITLE: NAS Whiting Field		LOG of WELL: WHF-1467-21	BORING NO. NFF-SB-45
CLIENT: SOUTHNAVFACENGCOM			PROJECT NO: 7518-40
CONTRACTOR: Groundwater Protection		DATE STARTED: 4/21/92	COMPLTD: 4/21/92
METHOD: HSA	CASE SIZE: 4 inch	SCREEN INT.: 96'-III'	PROTECTION LEVEL: D
TOC ELEV.: 173.93 FT.	MONITOR INST.: OVA	TOT DPTH: IIIFT.	DPTH TO ∇ 102 FT.
LOGGED BY: N. Pagano	WELL DEVELOPMENT DATE:		SITE: North Fuel Farm

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
								POSTHOLE	
5			1.8/2	0.0	CLAYEY SAND: Reddish brown, yellow, tan, fine to medium grained, 8" stiff, wet.	---	SC		
10			1.2/2	0.0	CLAY: Brown, yellow, tan, stiff, 4" of fine to coarse grained.	---	SC		
15			1.9/2	0.0	CLAYEY SAND: Brown, yellow, tan, fine to medium grained, moderate clay content, wet.	---	SC		
20			2.0/2	0.0					
25			1.5/2	0.0	SAND: Rose, yellow, brown, white, fine to medium grained.	---	SP		
30			1.6/2	0.0	SAND: Yellow, white, rose, fine to medium grained.	---	SP		
35			1.7/2	0.0					
40			1.2/2	0.0	SAND: White, yellow, beige, tan, fine to medium grained.	---	SP		
45			1.2/2	0.0					
50			1.6/2	0.0					
55			1.6/2	0.0					
60							SP		

TITLE: NAS Whiting Field		LOG of WELL: WHF-1467-21	BORING NO. NFF-SB-45
CLIENT: SOUTHNAVFACENGCOM			PROJECT NO: 7518-40
CONTRACTOR: Groundwater Protection		DATE STARTED: 4/21/92	COMPLTD: 4/21/92
METHOD: HSA	CASE SIZE: 4 inch	SCREEN INT.: 96'-111'	PROTECTION LEVEL: D
TOC ELEV.: 173.93 FT.	MONITOR INST.: OVA	TOT DPTH: 111FT.	DPTH TO ▽: 102 FT.
LOGGED BY: N. Pagano	WELL DEVELOPMENT DATE:		SITE: North Fuel Farm

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
Continued from PAGE 1								
		1.6/2	0.0	SAND: Light grey, white, fine to medium grained.		SP		
65		1.0/2	0.0					
70		1.2/2	0.0	SAND: White, yellow, fine to medium grained.		SP		
75		1.2/2	0.0					
80		1.2/2	0.0	SAND: White, light pink, beige, yellow, fine to medium grained.		SP		
85		1.6/2	0.0					
90		1.6/2	0.0	SAND: Rose, yellow, light pink, beige, white, fine to medium grained, little clay.		SP		
95		1.6/2	0.0	SAND: Rose, maroon, yellow, beige, white, fine to coarse grained.		SW		
100		2.0/2	-					
105		2.0/2	-	SAND: Maroon, yellow, rose, white, fine to medium grained, stiff clay 1', wet.		SP		
110								
115								
120								



TITLE: NAS Whiting Field		LOG of WELL: WHF-1467-22R	BORING NO. AST-SB-31
CLIENT: SOUTHNAVFACENGCOM		PROJECT NO: 7518-30	
CONTRACTOR: Groundwater Protection, Inc.		DATE STARTED: 02/16/93	COMPLTD: 02/19/93
METHOD: 6.25" HSA	CASE SIZE: 4 inches	SCREEN INT.: 88-98 FT	PROTECTION LEVEL: D
TOC ELEV.: 172.38 FT.	MONITOR INST.: OVA	TOT DPTH: 103FT.	DPTH TO ∇ FT.
LOGGED BY: N. Pagano	WELL DEVELOPMENT DATE:		SITE: Site 1467

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
5					SAND: Tan to peach, very fine grained, well-sorted.		SP		
10					CLAYEY SAND: Tan to reddish brown, very fine grained.		SC		
15					CLAYEY SAND: Tan to pink very fine grained.		SC		
20					CLAYEY SAND: Tan to peach very fine grained.		SC		
25					SAND: Light pink to dark pink, fine grain, well sorted, trace heavy mineral.		SP		
30					SAND: Off-white, very fine grained, well sorted, trace heavy mineral, mica.		SP		
35					SAND: Off-white, fine to coarse grained, trace heavy mineral.		SW		
40					SAND: Off-white, fine to medium grained, trace heavy mineral.		SP		
45					SAND: Off-white, fine to midium grained some quartz gravel, trace heavy mineral.		SP		
50							SP		

TITLE: NAS Whiting Field		LOG of WELL: WHF-1467-22R	BORING NO. AST-SB-31
CLIENT: SOUTHNAVFACENGCOM			PROJECT NO: 7518-30
CONTRACTOR: Groundwater Protection, Inc.		DATE STARTED: 02/16/93	COMPLTD: 02/19/93
METHOD: 6.25" HSA	CASE SIZE: 4 inches	SCREEN INT.: 88-98 FT	PROTECTION LEVEL: D
TOC ELEV.: 172.38 FT.	MONITOR INST.: OVA	TOT DPTH: 103FT.	DPTH TO ∇ FT.
LOGGED BY: N. Pagano	WELL DEVELOPMENT DATE:		SITE: Site 1467

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
Continued from PAGE 1									
					SAND: Off-white, fine to midium grained some quartz gravel, trace heavy mineral.		SP		
55					SAND: Off-white, fine grained, well sorted, trace heavy mineral, mica.		SP		
60									
65					SAND: Off-white, very fine grained, reace heavy mineral, well-sorted, mica.		SP		
70					SAND: Off-white, fine grained, well-sorted, trace heavy mineral.		SP		
75					SAND: Off-white fine grained, trace heavy mineral, well-sorted, mica.		SP		
80					SAND: Off-white to pink, fine to coarse grained, trace heavy mineral.		SW		
85					SAND: Yellow, pink, orange, yellow, medium to coarse grained, trace heavy mineral.		SW		
90					SAND: Pink, orange, yellow, red, fine to medium grained, trace heavy mineral, mica.		SP		
95					CLAYEY SAND: Pink, orange, red, yellow, fine to coarse grained, mottled, damp.		SC		
100							CH		

TITLE: NAS Whiting Field		LOG of WELL: WHF-1467-22R	BORING NO. AST-SB-31
CLIENT: SOUTHNAVFACENGCOM		PROJECT NO: 7518-30	
CONTRACTOR: Groundwater Protection, Inc.		DATE STARTED: 02/16/93	COMPLTD: 02/19/93
METHOD: 6.25" HSA	CASE SIZE: 4 inches	SCREEN INT.: 88-98 FT	PROTECTION LEVEL: D
TOC ELEV.: 172.38 FT.	MONITOR INST.: OVA	TOT DPTH: 103FT.	DPTH TO ∇ FT.
LOGGED BY: N. Pagano	WELL DEVELOPMENT DATE:		SITE: Site 1467

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
					Continued from PAGE 2				
					CLAY: Gray, stiff, wet.		CH		
105									
110									
115									
120									
125									
130									
135									
140									
145									
150									

TITLE: NAS Whiting Field North Fuel Farm				LOG of WELL: WHF-1467-23		BORING NO. NFF-SB-24	
CLIENT: SOUTHNAVFACENGCOM						PROJECT NO: 7518-40	
CONTRACTOR: Groundwater Protection				DATE STARTED: 4/22/92		COMPLTD: 4/22/92	
METHOD: HSA		CASE SIZE: 4 inch		SCREEN INT.: 90.5'-100.5'		PROTECTION LEVEL: D	
TOC ELEV.: 172.57 FT.		MONITOR INST.: OVA		TOT DPTH: 101 FT.		DPTH TO ∇ 90 FT.	
LOGGED BY: N. Pagano		WELL DEVELOPMENT DATE:				SITE: North Fuel Farm	

DEPTH F.T.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
5		1.9/2	0.0	SAND: Tan, fine to medium grained, trace heavy minerals.		SP	4,4,4,4	POSTHOLE
10		1.7/2	0.0	SANDY CLAY: Orange-red and tan, low plasticity, silty.		SC	7,9,11,12	
15		1.5/2	0.0				6,8,10,11	
20		1.8/2	0.0				8,8,8,10	
25		2.0/2	0.0	CLAY: Orange-red and tan, low plasticity.		CL	7,8,9,9	
30		1.3/2	0.0	SAND: Pink, gray, and tan, fine to medium grained with some very fine and coarse grained, little silt and clay, trace heavy minerals.		SC	4,5,7,7	
35		1.8/2	0.0	SANDY CLAY: Pink and gray, low plasticity.				
40		1.8/2	0.0	SAND: Grey, pink, medium to coarse grained, with little fine and very coarse grained and small gravel, trace heavy minerals, mica.		SP	5,7,8,8	
45		1.3/2	1.0				6,7,7,8	
50		2.0/2	0.0				5,7,8,8	
55				SAND: Pink, red, and gray, medium to coarse grained, and very coarse grained with small quartzitic gravel.		SW	9,10,12,12	
						SW		

TITLE: NAS Whiting Field North Fuel Farm		LOG of WELL: WHF-1467-23	BORING NO. NFF-SB-24
CLIENT: SOUTHNAVFACENGCOM		PROJECT NO: 7518-40	
CONTRACTOR: Groundwater Protection		DATE STARTED: 4/22/92	COMPLTD: 4/22/92
METHOD: HSA	CASE SIZE: 4 inch	SCREEN INT.: 90.5'-100.5'	PROTECTION LEVEL: 0
TOC ELEV.: 172.57 FT.	MONITOR INST.: OVA	TOT DPTH: 101 FT.	DPTH TO ∇ 90 FT.
LOGGED BY: N. Pagano	WELL DEVELOPMENT DATE:		SITE: North Fuel Farm

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
Continued from PAGE 1								
		1.8/2	2.0	SAND: Gray, pink, and tan, fine to medium grained, little very fine and coarse grained, trace heavy minerals, mica.	• • •	SW	11,12,15,15	
60		1.1/2	10.0				15,16,16,15	
65		1.5/2	37.0	SAND: Gray, pink, and tan, fine to medium grained, little very fine and coarse grained, trace heavy minerals, mica, slight TCE odor.	• • •	SP	8,10,12,12	
70		1.2/2	65.0	SAND: Gray, pink and tan, fine to medium grained, little very fine and coarse grained, trace heavy minerals, mica.	• • •	SP	15,23,22,23	
75		1.7/2	8.0				15,22,25,25	
80		1.0/2	148.0				Wt. of Rod	
85		1.8/2	8.0	SAND: Pink, orange, tan, and red, fine to coarse grained with little fine sand, silt, trace clay, heavy minerals and mica, slight odor.	• • •	SW	9,10,11,12	
90		1.3/2	167.0	SAND: Tan, light gray, coarse to very coarse grained with some medium sand and small gravel, trace heavy minerals and mica, slight odor, wet.	• • •	SP	Wt. of Rod	
95								
100								
105								
110								

TITLE: NAS Whiting Field North Fuel Farm				LOG of WELL: WHF-1467-24		BORING NO. NFF-SB-2	
CLIENT: SOUTHNAVFACENGCOM						PROJECT NO: 7518-40	
CONTRACTOR: Groundwater Protection				DATE STARTED: 4/23/92		COMPLTD: 4/23/92	
METHOD: HSA		CASE SIZE: 4 inch		SCREEN INT.: 85'-95'		PROTECTION LEVEL: B	
TOC ELEV.: 169.77 FT.		MONITOR INST.: OVA		TOT DPTH: 100FT.		DPTH TO ∇ 88 FT.	
LOGGED BY: N. Pagano		WELL DEVELOPMENT DATE:				SITE: North Fuel Farm	

DEPTH FT.	LABORATORY SAMPLE ID.	RECOVERY SAMPLE	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
5		1.5/2	50.0	CLAYEY SAND: Brown to red-brown, very fine to fine grained, moderate to low plasticity.		SC	3,3,3,3	
10		1.5/2	>50.0	CLAYEY SAND: Brown, very fine to fine grained, moderate plasticity, trace of silt. Slight petroleum odor.		SC	4,4,3,3	
15		1.5/2	160.0	CLAYEY SAND: Red-brown, stained black in patches, very fine to fine grained, low plasticity. Moderate petroleum odor.		SC	6,8,22,26	
20		1.8/2	220.0	CLAY: Gray to rust-red, very fine grained, high plasticity, trace sand. Slight hydrocarbon odor.		CH	5,7,8,9	
25		1.0/2	2500	SAND: White with black grains, very fine to fine grained, well-sorted Strong hydrocarbon odor.		SP	6,11,21,22	
30		1.0/2	>5000	SAND: White with black grains, very fine to very coarse grained. Strong hydrocarbon odor.		SW	12,14,14,15	
35		1.0/2	4000				7,9,9,8	
40		1.5/2	4000	SAND: White, fine to medium grained with some coarse quartzitic grains moderately sorted. Strong hydrocarbon odor.		SW	9,9,10,12	
45		1.5/2	>5000	CLAYEY SAND: Light brown, very fine to fine grained, well-sorted.			11,11,12,12	
50		1.4/2	>5000	SAND: White, very fine grained, well-sorted, some clay. Very strong hydrocarbon odor.		SP	7,7,8,9	
55						SP		

TITLE: NAS Whiting Field North Fuel Farm		LOG of WELL: WHF-1467-24	BORING NO. NFF-SB-2
CLIENT: SOUTHNAVFACENGCOM		PROJECT NO: 7518-40	
CONTRACTOR: Groundwater Protection		DATE STARTED: 4/23/92	COMPLTD: 4/23/92
METHOD: HSA	CASE SIZE: 4 inch	SCREEN INT.: 85'-95'	PROTECTION LEVEL: B
TOC ELEV.: 169.77 FT.	MONITOR INST.: OVA	TOT DPTH: 100FT.	DPTH TO ∇: 88 FT.
LOGGED BY: N. Pagano	WELL DEVELOPMENT DATE:		SITE: North Fuel Farm

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
Continued from PAGE 1								
		1.5/2	>5000	SAND: White to buff, fine to medium grained, moderate sorting. Very strong hydrocarbon odor.		SP	14,15,18,20	
80		1.5/2	>5000	SANDY CLAY: Light tan, low to moderate plasticity.		SC	12,14,15,15	
85		1.7/2	>5000	SAND: White, very fine to fine grained, trace clay, very well-sorted. Very strong hydrocarbon odor.		SP	10,10,15,16	
70		1.8/2	>5000	SAND: White, very fine to fine grained, well-sorted, damp. Strong hydrocarbon odor.		SP	15,21,33,37	
75		1.5/2	>5000				20,28,30,50	
80		1.7/2	>5000	SAND: White to red to yellow, fine to medium grained, moderately to well-sorted, some black grains. Strong hydrocarbon odor.		SP	19,20,26,31	
85		1.8/2	>5000	SAND: White, fine to coarse grained, moderate sorting. Strong hydrocarbon odor.		SW	23,24,26,32	
90		1.8/2	>5000	SAND: White to tan to brown, very fine to medium grained, moderate to well-sorted, saturated. Strong hydrocarbon odor.		SP	13,32,50,50	
95		2.0/2	>5000	SAND: Yellow-brown, fine to coarse grained, poorly sorted, saturated.		SW	Wt. of Rod	
				CLAY: Gray to red to yellow-brown, high plasticity.				
100								
105								
110								

TITLE: NAS Whiting Field North Fuel Farm				LOG of WELL: WHF-1467-25		BORING NO. NFF-SB-8	
CLIENT: SOUTHNAVFACENGCOM						PROJECT NO: 7518-40	
CONTRACTOR: Groundwater Protection				DATE STARTED: 4/24/92		COMPLTD: 4/24/92	
METHOD: HSA		CASE SIZE: 4 inch		SCREEN INT.: 75'-90'		PROTECTION LEVEL: D	
TOC ELEV.: 160.85 FT.		MONITOR INST.: OVA		TOT DPTH: 91FT.		DPTH TO ∇: 82 FT.	
LOGGED BY: N. Pagano		WELL DEVELOPMENT DATE:				SITE: North Fuel Farm	

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
5		2.0/2	0.0	SAND CLAY: Light orange with streaks of pale gray.	---	SC	4,5,5,6	
10		2.0/2	4.0	SAND CLAY: Light orange with streaks of pale gray, dark brown.	---	SC	5,6,6,8	
15		1.0/2	425.0	SAND: Light to dark brown, streaks of orange and pale gray.	.	SP	8,10,10,12	
20		1.5/2	1000	SAND: Pale gray, silty, slight odor.	/	SM	7,7,8,8	
25		1.5/2	42.0	SAND: Light gray, coarse to very coarse, heavy saturated zone	.	SP	7,8,8,10	
30		2.0/2	150.0	SAND: Light gray, coarse to very coarse grained, damp, with 6" of red, yellow sandy clay, hydrocarbon odor in clay.	.	SP	10,10,12,12	
35		1.3/2	25.0	SAND: Light gray to white, coarse to very coarse grained, damp, odor.	.	SP	8,8,10,9	
40		1.7/2	750.0	SAND: Same as above with 6" of clayey sand, pink to buff.	---	SC	9,10,10,12	
45		1.5/2	275.0	SAND: Light gray, coarse to very coarse grained, with 3" of brown sandy clay.	.	SP	10,11,11,12	
50		1.7/2	40.0				13,20,20,23	
55			450.0			SP	20,22,28,30	

TITLE: NAS Whiting Field North Fuel Farm		LOG of WELL: WHF-1467-25	BORING NO. NFF-SB-8
CLIENT: SOUTHNAVFACENGCOM		PROJECT NO: 7518-40	
CONTRACTOR: Groundwater Protection		DATE STARTED: 4/24/92	COMPLTD: 4/24/92
METHOD: HSA	CASE SIZE: 4 inch	SCREEN INT.: 75'-90'	PROTECTION LEVEL: D
TOC ELEV.: 160.85 FT.	MONITOR INST.: OVA	TOT DPTH: 91FT.	DPTH TO ∇ 82 FT.
LOGGED BY: N. Pagano	WELL DEVELOPMENT DATE:		SITE: North Fuel Farm

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
Continued from PAGE 1								
		1.8/2		SAND: Light gray, coarse to very coarse grained, with 3" of brown sandy clay, damp.		SP		
60		2.0/2	22.0	SAND: Light gray, brown to yellow, coarse to very coarse grained, with 2" of sandy brown and pink clay.		SP	25,28,32,33	
65		2.0/2	30.0	SAND: Light gray with red streaks, coarse to very coarse grained, with 2" of clayey sand, some mica.		SP	20,28,29,32	
70		2.0/2	150.0	SAND: Light gray to buff, coarse to very coarse grained, damp with sandy clay, some mica.		SP	25,29,23,30	
75		1.5/2	5.0	SAND: Light gray, brown, red streaks, coarse to very coarse grained, gravelly, some silt and mica.		SP	30,35,45,42	
80		1.4/2	15.0	SAND: Red to tan, coarse to very coarse grained, some mica, very damp.		SP	29,35,41,42	
85		2.0/2	625.0	SAND: Light gray, brown and red bands, fine to very coarse grained, saturated, mica over 8" layer of pink and light grey clay, good plasticity, micaceous, wet.		SW	Wt. OF Rod	
90								
95								
100								
105								
110								

TITLE: NAS Whiting Field North Fuel Farm				LOG of WELL: WHF-1467-26		BORING NO. NFF-SB-3	
CLIENT: SOUTHNAVFACENGCOM						PROJECT NO: 7518-40	
CONTRACTOR: Groundwater Protection				DATE STARTED: 4/25/92		COMPLTD: 4/25/92	
METHOD: HSA		CASE SIZE: 4 inch		SCREEN INT.: 73'-83'		PROTECTION LEVEL: B	
TOC ELEV.: 166.28 FT.		MONITOR INST.: OVA		TOT DPTH: 90FT.		DPTH TO ▽ 74 FT.	
LOGGED BY: N. Pagano		WELL DEVELOPMENT DATE:				SITE: North Fuel Farm	

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
			0.0				POSTHOLE	
5		1.0/2	0.0	SILTY SAND: Dark red-brown, fine grained, trace clay.	▨	SM	2,3,4,4	
10		1.5/2	0.0				14,15,21,22	
15		1.5/2	20.0	SAND: Red-brown to gray layers, fine grained.	▤	SP	12,14,14,17	
20		1.5/2	NA	CLAYEY SAND: Light gray, fine grained.	▬	SC	6,8,10,12	
25		0.6/2	20.0	SAND: Light gray, fine to medium grained.	▤	SP	9,10,11,8	
30		0.8/2	46.2				8,9,8,8	
35		0.8/2	37.6	SAND: As above, with quartzitic gravel.	▤	SP	9,11,11,14	
40		1.3/2	398.0	SAND: Red-brown to light gray to white, very fine to medium grained with some quartzitic gravel.	•••	SW	5,9,14,14	
45		0.8/2	952.0				14,14,17,21	
50		0.8/2	675.6				15,20,25,29	
55								

TITLE: NAS Whiting Field North Fuel Farm		LOG of WELL: WHF-1467-26		BORING NO. NFF-SB-3	
CLIENT: SOUTHNAVFACENGCOM				PROJECT NO: 7518-40	
CONTRACTOR: Groundwater Protection			DATE STARTED: 4/25/92		COMPLTD: 4/25/92
METHOD: HSA		CASE SIZE: 4 inch		SCREEN INT.: 73'-83'	
TOC ELEV.: 166.28 FT.		MONITOR INST.: OVA		TOT DPTH: 90FT.	
LOGGED BY: N. Pagano		WELL DEVELOPMENT DATE:			SITE: North Fuel Farm

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS Continued from PAGE 1	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
60		0.8/2	>1000	SAND: Light red-brown to white, fine grained.		SP	14,18,21,23	
65		0.8/2	>1000				20,22,26,28	
70		0.8/2	>1000				23,42,44,46	
75		0.8/2	>1000				23,34,36,41	
80		1.0/2	NA	SAND: Dark red-brown to light gray, fine grained.		SP	10,11,13,14	
85		0.0/2	NA			SP	6,5,5,7	
		1.8/2	40.0	CLAYEY SAND: Light gray to light brown, fine grained, micaceous, wet.			Wt. of Rod	
90		2.0/2	105.0	CLAY: Light brown to dark gray, stiff, micaceous, wet.		CL	4,6,5,6	
95		2.0/2	3200	SAND: Light brown, fine to medium grained, trace heavy minerals, wet.		SP	10,8,8,14	

TITLE: NAS Whiting Field				LOG of WELL: WHF-1467-27		BORING NO. NFF-SB-40	
CLIENT: SOUTHNAVFACENGCOM						PROJECT NO: 7518-40	
CONTRACTOR: Groundwater Protection				DATE STARTED: 4/26/92		COMPLTD: 4/26/92	
METHOD: HSA		CASE SIZE: 4 inch		SCREEN INT.: 100'-115'		PROTECTION LEVEL: D	
TOC ELEV.: 173.74 FT.		MONITOR INST.: OVA		TOT DPTH: 116FT.		DPTH TO ▽ FT.	
LOGGED BY: N. Pagano		WELL DEVELOPMENT DATE:				SITE: North Fuel Farm	

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
							POSTHOLE	
5		1.4/2	0.0	SANDY CLAY: Reddish orange, soft, moderate, plasticity.		SC	2,2,4,4	
10		1.3/2	0.0	CLAYEY SAND: Reddish orange, fine to medium grained, good cohesivness		SC	5,2,2,2	
15		1.1/2	0.0	SAND: Red-orange and white banded, fine grained.		SP	9,10,11,10	
20		1.8/2	0.0	SAND: Red-orange, silt to very fine grained.		SM	7,14,17,16	
25		1.5/2	0.0	SAND: White and orange, fine grained, trace heavy minerals.		SP	9,23,26,21	
30		1.3/2	0.0	SAND: White and orange, fine to medium grained, trace heavy minerals.		SP	9,18,26,25	
35		1.5/2	0.0	SAND: White and orange, fine to medium grained, trace heavy minerals.		SP	8,18,13,15	
40		1.5/2	0.0	SAND: Orange and white, fine to medium grained, over clayey sand, moderate cohesiveness.		SP	13,11,10,10	
45		1.1/2	0.0	SAND: White and yellow, fine to medium grained, trace heavy minerals.		SP	13,13,15,16	
50		1.1/2	0.0				11,12,14,14	
55						SP		

TITLE: NAS Whiting Field		LOG of WELL: WHF-1467-27	BORING NO. NFF-SB-40
CLIENT: SOUTHNAVFACENGCOM			PROJECT NO: 7518-40
CONTRACTOR: Groundwater Protection		DATE STARTED: 4/26/92	COMPLTD: 4/26/92
METHOD: HSA	CASE SIZE: 4 inch	SCREEN INT.: 100'-115'	PROTECTION LEVEL: D
TOC ELEV.: 173.74 FT.	MONITOR INST.: OVA	TOT DPTH: 116FT.	DPTH TO ▽ FT.
LOGGED BY: N. Pagano	WELL DEVELOPMENT DATE:		SITE: North Fuel Farm

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
Continued from PAGE 1								
		1.0/2	0.0	SAND: White, silt-sized to fine grained, trace heavy minerals, some mica.		SP	12,12,9,15	
60		1.5/2	1.0	SAND: White with black bands, fine grained, heavy minerals.		SP	14,17,18,21	
65		1.1/2	0.0	SANDY CLAY: Dark orange, yellow, and white mottled, fine to coarse grained.		SC	12,10,10,15	
70		1.3/2	0.0	CLAYEY SAND: Flesh, white, dark orange, and yellow mottled, fine grained.		SC	13,15,22,23	
75		1.0/2	0.0	SAND: White, fine grained, trace heavy minerals, packed hard, damp.		SP	14,13,25,26	
80		1.0/2	0.0	SAND: White, pink, and dark orange layered, fine to coarse grained, some quartz gravel, trace heavy minerals.		SP	18,23,38,47	
85		1.2/2	1.0	SAND: Orange, yellow, white, dark orange mottled, fine to coarse grained.		SP	23,25,40,50	
90		1.3/2	0.0	SAND: Dark orange, orange, yellow, and white mottled, fine to medium grained.		SP	20,32,43,50	
95		1.5/2	0.0				16,20,27,34	
100		1.3/2	0.0	SAND: Orange and white, fine to medium grained.		SP	Wt. of Rod	
105		2.0/2	G.C.	SAND: Grayish-white, silt to fine grained, saturated.		SM	N.M.	
110								

TITLE: NAS Whiting Field		LOG of WELL: WHF-1467-27	BORING NO. NFF-SB-40
CLIENT: SOUTHNAVFACENGCOM			PROJECT NO: 7518-40
CONTRACTOR: Groundwater Protection		DATE STARTED: 4/26/92	COMPLTD: 4/26/92
METHOD: HSA	CASE SIZE: 4 inch	SCREEN INT.: 100'-115'	PROTECTION LEVEL: D
TOC ELEV.: 173.74 FT.	MONITOR INST.: OVA	TOT DPTH: 116FT.	DPTH TO ▽ FT.
LOGGED BY: N. Pagano	WELL DEVELOPMENT DATE:		SITE: North Fuel Farm

DEPTH FT.	LABORATORY SAMPLE ID.	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS Continued from PAGE 2	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
115								
120								
125								
130								
135								
140								
145								
150								
155								
160								
165								

TITLE: NAS Whiting Field North Fuel Farm				LOG of WELL: WHF-1467-28		BORING NO. NFF-SB-20	
CLIENT: SOUTHNAVFACENGCOM						PROJECT NO: 7518-30	
CONTRACTOR: Groundwater Protection				DATE STARTED: 4/27/92		COMPLTD: 4/27/92	
METHOD: HSA		CASE SIZE: 4 inch		SCREEN INT.: 90'-105'		PROTECTION LEVEL: D	
TOC ELEV.: 173.03 FT.		MONITOR INST.: OVA		TOT DPTH: 106FT.		DPTH TO ∇ 100 FT.	
LOGGED BY: J. Williams/N. Pagano		WELL DEVELOPMENT DATE: 5/22/92				SITE: North Fuel Farm	

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
							POSTHOLE	
5		1.1/2	0.0	CLAYEY SAND: Orange, fine to medium grained with some silt and clay, trace heavy minerals.	---	SC	10,4,5,5	
10		1.0/2	0.0	SANDY CLAY: Tan, orange, light gray, red, silty, trace heavy minerals and mica, low plasticity.	---	SC	10,9,9,10	
15		1.9/2	11.0	SANDY SILTY CLAY: Tan, orange, light gray, red, trace heavy minerals and mica, low to moderate plasticity.	---	SC	5,6,6,7	
20		1.8/2	15.0				9,10,10,10	
25		0.5/2	N.R.				No Blw. Ct.	
30		1.5/2	15.0	SAND: Pink, gray, orange, medium grained, sandy clay.	---	SC	8,10,10,10	
35		1.8/2	90.0				7,7,6,5	
40		1.8/2	20.0	SAND: Tan, fine to medium grained.	---	SP	5,6,6,8	
45		1.3/2	80.0				7,7,5,6	
50		1.9/2	9.0	SAND: Tan, fine to medium grained.	---	SP	12,14,15,15	
55								

TITLE: NAS Whiting Field North Fuel Farm		LOG of WELL: WHF-1467-28	BORING NO. NFF-SB-20
CLIENT: SOUTHNAVFACENGCOM		PROJECT NO: 7518-30	
CONTRACTOR: Groundwater Protection		DATE STARTED: 4/27/92	COMPLTD: 4/27/92
METHOD: HSA	CASE SIZE: 4 inch	SCREEN INT.: 90'-105'	PROTECTION LEVEL: D
TOC ELEV.: 173.03 FT.	MONITOR INST.: OVA	TOT DPTH: 106FT.	DPTH TO ∇ 100 FT.
LOGGED BY: J. Williams/N. Pagano	WELL DEVELOPMENT DATE: 5/22/92		SITE: North Fuel Farm

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS Continued from PAGE 1	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
		1.5/2	325.0				15,18,20,28	
60		1.5/2	14.0	SAND: Tan, fine to medium grained.		SP	28,28,29,27	
65		1.5/2	110.0				38,42,48,42	
70		1.3/2	240.0	SAND: Tan, fine to medium grained.		SP	35,45,46,45	
75		1.8/2	150.0				20,25,25,30	
80		1.0/2	50.0	SAND: Tan, fine to medium grained, saturated.		SP	27,27,27,29	
85								
90								
95								
100								
105		1.0/2	>5000	SAND: Coarse to very coarse grained, angular, saturated, very strong odor		SW	NA	
110								

TITLE: NAS Whiting Field North Fuel Farm				LOG of WELL: WHF-1467-29		BORING NO. NFF-SB-16	
CLIENT: SOUTHNAVFACENGCOM						PROJECT NO: 7518-40	
CONTRACTOR: Groundwater Protection				DATE STARTED: 4/27/92		COMPLTD: 4/28/92	
METHOD: HSA		CASE SIZE: 4 inch		SCREEN INT.: 80'-95'		PROTECTION LEVEL: D	
TOC ELEV.: 188.98 FT.		MONITOR INST.: OVA		TOT DPTH: 100FT.		DPTH TO ∇ 90 FT.	
LOGGED BY: K. Murray / N. Pagano		WELL DEVELOPMENT DATE: 5/22/92				SITE: North Fuel Farm	

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
5		2.0/2	3.0	SAND: Brown, medium to coarse grained, uncompacted.		SP	4,5,5,6	
10		2.0/2	8.0	CLAYEY SAND: Brown to dark red, fine to coarse grained.		SC	10,9,9,10	
15		0.5/2	8.0				8,8,8,10	
20		1.9/2	25.0	SANDY CLAY: Orange to red, medium to coarse grained (12") over clay, orange, medium to tight compaction.		SC	5,6,6,7	
25		2.0/2	450.0	SAND: Orange to pink, medium to coarse grained.		SP	5,5,5,6	
30		2.0/2	7.0	SAND: White, very fine to fine grained, trace clay, well sorted, slightly damp.		SP	7,7,7,10	
35		2.0/2	3.0	SAND: Light gray to white as above.		SP	7,8,8,10	
40		2.0/2	55.0	SAND: White to light gray, very fine to coarse grained with some gravel sized quartz, poorly sorted.		SW	7,8,10,10	
45		2.0/2	20.0	SAND: White as above with some quartz, trace clay.		SW	12,12,14,14	
50		2.0/2	140.0				10,14,13,12	

TITLE: NAS Whiting Field North Fuel Farm		LOG of WELL: WHF-1467-29		BORING NO. NFF-SB-16	
CLIENT: SOUTHNAVFACENGCOM				PROJECT NO: 7518-40	
CONTRACTOR: Groundwater Protection			DATE STARTED: 4/27/92		COMPLTD: 4/28/92
METHOD: HSA		CASE SIZE: 4 inch		SCREEN INT.: 80'-95'	
TOC ELEV.: 168.96 FT.		MONITOR INST.: OVA		TOT DPTH: 100FT.	
LOGGED BY: K. Murray / N. Pagano		WELL DEVELOPMENT DATE: 5/22/92			SITE: North Fuel Farm

DEPTH F.T.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
Continued from PAGE 1								
57		1.5/2	1700				12,12,13,12	
62		1.5/2	95.0	SAND: White, very fine to fine grained, moderate to well-sorted.		SP	Wt. of Rod	
67		1.5/2	2500	SAND: White, very fine grained, trace clay, very well-sorted.		SP	12,12,17,17	
72		1.7/2	5000				Wt. of Rod	
77		1.6/2	2400	SAND: White, stained black in patches, fine to medium grained, trace heavy minerals, moderate to well-sorted, slightly damp.		SP	18,20,21,20	
82		1.0/2	4000	SAND: White and light orange mottled, very fine to fine grained, very well-sorted.		SP	12,15,15,16	
87		1.4/2	3200	SAND: White to rust orange, fine to coarse grained, poor to moderately sorted, wet.		SW	18,25,30,32	
92		2.0/2	220.0	SAND: White to buff, as above, saturated.		SW	8,10,11,11	
97		2.0/2	0.0	SAND: White, very fine to medium grained, well graded, saturated.		SW	11,11,19,28	
102		2.0/2	0.0	SAND: Red to beige, fine to coarse grained, saturated.		SW	11,10,8,11	

TITLE: NAS Whiting Field North Fuel Farm		LOG of WELL: WHF-1467-30	BORING NO. NFF-SB-22
CLIENT: SOUTHNAVFACENGCOM			PROJECT NO: 7518-30
CONTRACTOR: Groundwater Protection		DATE STARTED: 4/28/92	COMPLTD: 4/29/92
METHOD: HSA	CASE SIZE: 4 inch	SCREEN INT.: 87'-102'	PROTECTION LEVEL: C, D
TOC ELEV.: 174.23 FT.	MONITOR INST.: OVA	TOT DPTH: 102.5FT.	DPTH TO ▽ 93.5 FT.
LOGGED BY: N. Pagano	WELL DEVELOPMENT DATE:		SITE: North Fuel Farm

DEPTH FT.	LABORATORY SAMPLE ID.	RECOVERY SAMPLE	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
							POSTHOLE	
5		1.8/2	0.0	SAND: Orange, fine to medium grained with some silt and clay.		SM	7,5,7,7	
10		1.8/2	0.0	SANDY CLAY: Tan, orange, red, low plasticity.		SC	8,10,12,15	
15		1.3/2	0.0	SANDY CLAY: Pink and gray, low plasticity.		SC	5,6,6,8	
20		1.8/2	0.0	CLAY: Light gray and pink mottled, little fine grained, silt, low to moderate plasticity.		CL	7,12,15,15	
25		1.4/2	0.0	SAND: Light gray and tan layers, medium to coarse grained, trace fine and very coarse sand, trace heavy minerals.		SW	9,15,20,20	
30		1.4/2	13.0				12,18,18,20	
35		1.3/2	5.0	SAND: Light gray and tan, medium to coarse grained, with some small to large quartzite gravel and fine sand, trace heavy minerals and silt.		SW	7,9,10,10	
40		1.3/2	49.0				9,10,10,10	
45		1.2/2	22.0				10,10,11,10	
50		1.3/2	250.0	SAND: Light gray to pink, very fine to fine grained with some medium sand and silt, trace clay and heavy minerals.		SP	9,10,12,11	

TITLE: NAS Whiting Field North Fuel Farm		LOG of WELL: WHF-1467-30		BORING NO. NFF-SB-22	
CLIENT: SOUTHNAVFACENGCOM				PROJECT NO: 7518-30	
CONTRACTOR: Groundwater Protection			DATE STARTED: 4/28/92		COMPLTD: 4/29/92
METHOD: HSA		CASE SIZE: 4 inch		SCREEN INT.: 87'-102'	
TOC ELEV.: 174.23 FT.		MONITOR INST.: OVA		TOT DPTH: 102.5 FT.	
LOGGED BY: N. Pagano		WELL DEVELOPMENT DATE:			SITE: North Fuel Farm

DEPTH FT.	LABORATORY SAMPLE ID.	RECOVERY HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS Continued from PAGE 1	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
57		1.1/2 240.0	SAND: Light gray, fine to medium grained, trace heavy minerals and mica.		SP	Wt. of Rod	
62		1.8/2 60.0	SAND: Light gray, medium to coarse grained, with little fine and very coarse sand, trace small gravel, mica, and heavy minerals.		SW	Wt. of Rod	
67		1.3/2 373.0	SAND: Light gray, fine to medium grained, with little very fine sand, silt, and clay, trace heavy minerals and mica.		SP	10,12,12,15	
72		1.3/2 110.0	SAND: Light gray, fine to medium grained with little gravel, coarse to very coarse sand and gravel, trace silt, clay, heavy minerals, and mica.		SW	12,15,18,20	
77		1.8/2 60.0	SAND: Light pink to gray, coarse to very coarse grained with some small gravel, trace heavy minerals and mica.		SW	18,18,19,20	
82		1.9/2 150.0	SAND: Light gray and pink, fine to medium grained with some coarse grained, and little very coarse grained, and small gravel, trace heavy minerals and mica. <i>Petroleum odor detected.</i>		SW	15,15,17,16	
87		1.8/2 175.0	SAND: Pink to red, coarse to very coarse grained with some small gravel and little medium sand, trace silt, clay, heavy minerals, mica. <i>Petroleum odor.</i>		SW	18,17,18,18	
92		1.3/2 800.0	SAND: Orange, red, and gray, fine to medium grained with little coarse and very coarse sand and small gravel, trace silt, clay, heavy minerals, and mica. <i>Strong petroleum odor.</i>		SW	12,17,17,20	
97		2.0/2 200.0	SAND: Red, fine to coarse grained, poorly sorted, saturated.		SW	Wt. of Rod	
		2.0/2	SILTY SAND: Red, gold, and tan, very fine grained with trace of clay.		SC	3,4,4,10	
102			CLAYEY SAND: Mottled red/gold/tan, very silty, very fine grained, very low plasticity.				

TITLE: NAS Whiting Field		LOG of WELL: WHF-1467-31	BORING NO. NFF-SB-39
CLIENT: SOUTHNAVFACENGCOM			PROJECT NO: 7518-40
CONTRACTOR: Groundwater Protection		DATE STARTED: 5/9/92	COMPLTD: 5/9/92
METHOD: HSA	CASE SIZE: 4 inch	SCREEN INT.: 99'-114'	PROTECTION LEVEL: D
TOC ELEV.: 171.21 FT.	MONITOR INST.: OVA	TOT DPTH: 125 FT.	DPTH TO ∇ 102 FT.
LOGGED BY: C. Douse/N. Pagano	WELL DEVELOPMENT DATE:		SITE: North Fuel Farm

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
								POSTHOLE	
5		2.0/2	0.0		CLAYEY SAND: Reddish brown, fine to medium grained.	— —	SC		
10		2.0/2	0.0						
15		2.0/2	0.0						
20		1.8/2	0.0		CLAYEY SAND: Light reddish brown, beige, fine grained, moderate clay.	— —	SC		
25		1.2/2	0.0		SAND: Light reddish brown, beige, rose, fine grained.		SP		
30		1.6/2	0.0		CLAYEY SAND: Light reddish brown, beige, rose, fine to medium grained.	— —	SC		
35		2.0/2	0.0		CLAYEY SAND: Rose, beige, fine to medium grained.	— —	SC		
40		1.6/2	0.0		SAND: Rose, beige, little clay, fine to medium grained.		SP		
45		1.9/2	2.0		SAND: Rose, beige, fine to medium grained, moderate gravels.		SP		
50		1.9/2	4.0						
55		2.0/2	0.0		SAND: Beige-white, with some rose, fine to medium grained.		SP		
60		1.3/2	0.0		CLAYEY SAND: White, beige, rose, fine grained.	— —	SC		

TITLE: NAS Whiting Field		LOG of WELL: WHF-1467-31	BORING NO. NFF-SB-39
CLIENT: SOUTHNAVFACENGCOM		PROJECT NO: 7518-40	
CONTRACTOR: Groundwater Protection		DATE STARTED: 5/9/92	COMPLTD: 5/9/92
METHOD: HSA	CASE SIZE: 4 inch	SCREEN INT.: 99'-114'	PROTECTION LEVEL: D
TOC ELEV.: 171.21 FT.	MONITOR INST.: OVA	TOT DPTH: 125FT.	DPTH TO ∇ 102 FT.
LOGGED BY: C. Douse/N. Pagano	WELL DEVELOPMENT DATE:		SITE: North Fuel Farm

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
Continued from PAGE 1								
68		1.0/2	3.0	CLAYEY SAND: White, beige, rose, fine to medium grained.	---	SC		
73		1.8/2	25.0	SAND: White, fine to medium grained.		SP		
78		1.6/2	26.0	SAND: White, beige, rose, fine to medium grained.		SP		
83		1.6/2	33.0	SAND: Reddish brown, beige, fine to medium grained, moderate gravels.		SP		
88		1.7/2	10.0					
93		2.0/2	50.0	SAND: Beige, rose, fine to medium grained.		SP		
98		2.0/2	2.0					
103		2.0/2	2.0	SAND: Beige to white, fine to medium grained, saturated.		SP		
108								
113								
118								
123				CLAY: Gray, soft.	---	CH		

TITLE: NAS Whiting Field North Fuel Farm		LOG of WELL: WHF-1467-32		BORING NO. NFF-SB-10	
CLIENT: SOUTHNAVFACENGCOM				PROJECT NO: 7518-40	
CONTRACTOR: Groundwater Protection			DATE STARTED: 5/10/92		COMPLTD: 5/11/92
METHOD: HSA		CASE SIZE: 4 inch		SCREEN INT.: 82'-97'	
TOC ELEV.: 162.31 FT.		MONITOR INST.: OVA		TOT DPTH: 100FT.	
LOGGED BY: M. Wilkerson/N. Pagano			WELL DEVELOPMENT DATE:		SITE: North Fuel Farm

DEPTH F.T.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
5		1.0/2	0.0	SANDY CLAY: Red, medium grained.		SC	NA	
10		1.5/2	0.0	CLAY: Orange with pink streaks, hard, moderate plasticity.		CL	7,20,25,25	
15		2.0/2	10.0	SAND: Pale grey, silt to medium grained, slight odor.		SP	7,8,8,8	
20		2.0/2	0.0				4,5,6,6	
25		2.0/2	0.0	SAND: Orange, yellow, dark orange and pale gray layered, silt to medium grained.		SM	6,6,8,8	
30		2.0/2	0.0	SAND: Pale gray, silt to medium grained, loose, slight odor.		SM	4,8,8,10	
35		1.8/2	0.0				3,7,7,7	
40		1.0/2	0.0	SAND: Same as above with some orange color.		SM	6,7,10,10	
45		1.0/2	0.0	SAND: Gray and white, loose.		SP	18,15,19,20	
50		1.0/2	5.0	SAND: Pink and gray, silt to medium grained, loose.		SM	17,18,18,18	

TITLE: NAS Whiting Field North Fuel Farm		LOG of WELL: WHF-1467-32	BORING NO. NFF-SB-10
CLIENT: SOUTHNAVFACENGCOM			PROJECT NO: 7518-40
CONTRACTOR: Groundwater Protection		DATE STARTED: 5/10/92	COMPLTD: 5/11/92
METHOD: HSA	CASE SIZE: 4 inch	SCREEN INT.: 82'-97'	PROTECTION LEVEL: D
TOC ELEV.: 182.31 FT.	MONITOR INST.: OVA	TOT DPTH: 100FT.	DPTH TO ∇ 85 FT.
LOGGED BY: M. Wilkerson/N. Pagano		WELL DEVELOPMENT DATE:	SITE: North Fuel Farm

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE	RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
					Continued from PAGE 1				
			1.0/2				SM		
56			1.0/2	0.0				20,25,25,24	
61			1.0/2	5.0	SAND: Light brown, silt to medium grained, loose.		SM	20,22,24,24	
66			1.0/2	7.0	SAND: Light brown and pink over orange-red clay, moderate plasticity.		SC	10,10,12,13	
71			1.0/2	3.0	SAND: Light brown with orange bands, silt to medium grained, loose.		SM	Wt. of Rod	
76			1.0/2	0.0	SAND: Light brown to orange, medium grained, some silt and mica, loose.		SP	28,35,39,37	
81			1.0/2	0.0	SAND: Same as above, slight odor.		SP	17,18,18,20	
86			0.8/2	15.0	SAND: Orange, medium to coarse grained, some silt, saturated.		SW	16,16,15,17	
91									
96					SAND: Beige, fine to coarse grained, well graded, saturated.				
101									

TITLE: NAS Whiting Field North Fuel Farm				LOG of WELL: WHF-1467-33		BORING NO. NFF-SB-20	
CLIENT: SOUTHNAVFACENGCOM						PROJECT NO: 7518-40	
CONTRACTOR: Groundwater Protection				DATE STARTED: 5/11/92		COMPLTD: 5/12/92	
METHOD: HSA		CASE SIZE: 4 inch		SCREEN INT.: 69'-94'		PROTECTION LEVEL: B	
TOC ELEV.: 169.86 FT.		MONITOR INST.: OVA		TOT DPTH: 84FT.		DPTH TO ▽: 77.66 FT.	
LOGGED BY: J. Williams/A. Stodghill		WELL DEVELOPMENT DATE: 5/23/92				SITE: North Fuel Farm	

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
							POSTHOLE	
5		1.1/2	0.0	CLAYEY SAND: Orange, fine to medium grained with some silt and clay, trace heavy minerals.	— — — —	SC	10,4,5,5	
10		1.0/2	0.0	SANDY CLAY: Tan, orange, light gray, red, silty, trace heavy minerals and mica, low plasticity.	— — — —	SC	10,9,9,10	
15		1.9/2	11.0	SANDY SILTY CLAY: Tan, orange, light gray, red, trace heavy minerals and mica, low to moderate plasticity.	— — — —	SC	5,6,6,7	
20		1.8/2	15.0				9,10,10,10	
25		0.5/2	N.R.				No Blw. Ct.	
30		1.5/2	15.0	SAND: Pink, gray, orange, medium grained, sandy clay.	. . . . .	SP	8,10,10,10	
35		1.8/2	90.0				7,7,6,5	
40		1.8/2	20.0	SAND: Tan, fine to medium grained.	. . . . .	SP	5,6,6,8	
45		1.3/2	80.0				7,7,5,6	
50						SP		

TITLE: NAS Whiting Field North Fuel Farm		LOG of WELL: WHF-1467-33	BORING NO. NFF-SB-20
CLIENT: SOUTHNAVFACENGCOM			PROJECT NO: 7518-40
CONTRACTOR: Groundwater Protection		DATE STARTED: 5/11/92	COMPLTD: 5/12/92
METHOD: HSA	CASE SIZE: 4 inch	SCREEN INT.: 69'-94'	PROTECTION LEVEL: B
TOC ELEV.: 169.86 FT.	MONITOR INST.: OVA	TOT DPTH: 84FT.	DPTH TO ∇ 77.66 FT.
LOGGED BY: J. Williams/A. Stodghill		WELL DEVELOPMENT DATE: 5/23/92	SITE: North Fuel Farm

DEPTH FT.	LABORATORY SAMPLE ID.	SAMPLE RECOVERY	HEADSPACE (ppm)	SOIL/ROCK DESCRIPTION AND COMMENTS	LITHOLOGIC SYMBOL	SOIL CLASS	BLOWS/6-IN	WELL DATA
Continued from PAGE 1								
		1.9/2	9.0	SAND: Tan, fine to medium grained.		SP	12,14,15,15	
55		1.5/2	325.0				15,18,20,28	
60		1.5/2	14.0	SAND: Tan, fine to medium grained.		SP	28,28,29,27	
65		1.5/2	110.0				38,42,48,42	
70		1.3/2	240.0	SAND: Tan, fine to medium grained.		SP	35,45,46,45	
75		1.8/2	150.0				20,25,25,30	
80		1.0/2	50.0	SAND: Tan, fine to medium grained, saturated.		SP	27,27,27,29	
85		2.0/2	35.0	SAND: Yellowish gray to dark yellow grey.		SP	14,8,10,11	
90								
95								
100								